Scholastic TEACHER

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★ EDUCATION NEWS OF THE WEEK ★

Teaching Capitalism

For years, American businessmen have complained that youngsters do not understand the capitalistic system.

To remedy this defect, the New York Stock Exchange has brought out a series of free pamphlets for teacher use in the classroom: "You and The Investment World." Among titles: "The American Corporation," and "Capitalists: Investors in the Nation's Business."

The series, which includes lists of economic terms and teaching activities, was prepared by educators Hall Bartlett, Columbia Univ. Teachers College; Donald Doll, Montclair (N.J.); Mrs. Lora Teel Tibbetts, Citizenship Education Project, Teachers College; and Peter Yacyk, Ridley H.S., Folsom, Pa.

Write N.Y. Stock Exchange, 11 Wall Street, N.Y.C. (Free.)

More English

High school English teachers, according to Indiana Univ.'s William Riley Parker, should teach their subject in such a way as to develop in students three major outcomes:

(1) A permanent desire to write effectively. (2) A permanent interest in reading and a desire to cultivate taste. (3) A scholarly attitude even toward non-literary matters.

"To aim lower," Parker told the College English Association meeting at the Univ. of Wisconsin, "is, in my judgment, to make English a dubious member of the humanities."

Parker declared that the unprecedented demand for higher education calls for immediate changes in many high school curricula. More emphasis, he says, must now be given to college preparatory subjects.

IGY ISSUE

This week, *Senior Scholastic, Junior Scholastic,* and *World Week* are devoted to the International Geophysical Year, and *Scholastic Teacher* presents a special unit on teaching IGY in the classroom. On Nov. 8, *NewsTime* covers the earth satellite.

***Scholastic Teacher,* reaching teachers from third grade through senior high school, has its pages arranged so that each teacher gets the maximum possible use out of the magazine for his grade. For example, only the elementary editions this week carry the "Sharing Time" column. The other editions have an IGY article of especial interest to junior and senior high. See complete table of contents on page 4-T. (Note: Last week's "Listenables and Lookables" column carried a complete list of IGY programs to be presented live over ETV stations and on a delayed basis over some NBC affiliates. Check local ETV or NBC station for information.)**

Wide World

American youngsters besiege Soviet scientists for autographs following announcement of the launching of Russian artificial satellite. Russians were in Washington for conference on International Geophysical Year.

Teachers' Home

Omaha Education Association is building a 12-story apartment house for retired teachers, which it claims is the "first association-owned apartment building for retired teachers in the United States." Building will have 132 apartments, and cost about $1,386,092.

Fifteen hundred dollars will give teacher an option for a lifetime lease on an apartment, available upon retirement at age 60. Monthly rent is expected to be under $70, including heat, air-conditioning, electricity, and water.

Sputnik and You

The National Council for the Social Studies took a look into its crystal ball and timed the publication of its new yearbook, *Science and the Social Studies,* to coincide with the launching of the Russian *Sputnik.*

The yearbook contains a brief chapter on IGY. It correctly observes that the earth satellite is only one small part of the IGY program, and predicts that it will capture the lion's share of public attention.

Social studies teachers looking at the title of the National Council's yearbook may experience a few understandable tremors. A seismologist might translate these as: Isn't the social studies curriculum bulging without squeezing more science and technology into it? How much is a social studies teacher expected to know about science? Aren't some pupils more science minded than social studies teachers and aren't they likely to create embarrassing classroom situations?

The answers found in the yearbook are reassuring—in part. Editor Howard Cummings, in a masterly overview, "The

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Social Studies in a Scientific Age," observes that our decade is "the age of the physical and biological sciences." He urges "A greater emphasis on science must be incorporated in the existing program and to make room for it some of the old wood, often beautiful and always precious to some, must be removed."

Another contributor counters with the suggestion: "What is needed is not to add to or subtract [illegible]nt, but rather a different wa[illegible] at standard materials and methods already in use."

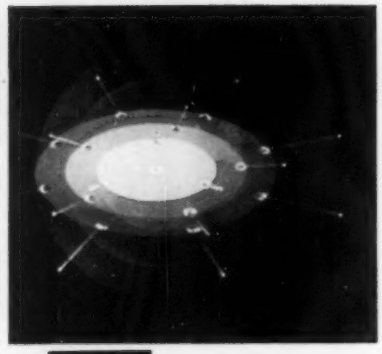
In a more specific way, Lewis Paul Todd advocates the case study approach to an understanding of science. In a well-developed application of science teaching to a social studies classroom, he details the "invention" of the electric battery by Volta. Todd shares James B. Conant's "faith in the value of history as a gateway to an understanding of science."

A common sense approach to the teaching of science in social studies classrooms is offered by Manson Jennings in his chapter on "Teacher Education." He asserts that social studies teachers cannot ignore the "tremendous impact on society" of science and technology. He believes that social studies teachers do not require any special science training. "It is a competence," he writes, "that can be maintained by an interested and inquiring mind, a mind that has the same concern for current developments in technology as for the latest political events in Washington."

In a chapter on "Science and Society," the viewpoint is developed that in the next quarter-century technological progress will be unprecedented. The consensus, therefore, is that although this prospect may be frightening to a few teachers, "to many more it is becoming a recognized fact that understanding the progress of science is more and more an indispensable tool of good teaching and the master-teacher."

About a third of the yearbook is taken over by specialists in various fields, including basic scientific research, agriculture, medical sciences, and atomic energy. The going here is slow. But the ground is regained quickly by contributors who lean on this section to develop science and social studies teaching in the elementary grades and on the secondary school level. These teacher-contributors frown on fusion of the two disciplines, but mention numerous topics common to both fields—the Industrial Revolution, transportation, communication, distribution of population, food supply, and conservation.

Cummings and John Haefner in the final chapter, "A Look Ahead," confess that follow-up studies of graduates frequently indicate that in the opinion of these graduates social studies were of



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little use to them in later life. They advance the comforting thought that "The inclusion of more materials on science and technology, with the accompanying social, political and economic effects, might heighten and improve social education at the same time."

The yearbook contributors are aware of the lag which has developed in the past between new interpretations of history and the textbooks. Some suggest that curriculum change is needed from the kindergarten through the 12th year rather than piecemeal modernization. However, anyone who has worked on a curriculum committee with goals of lesser magnitude will know that there is little danger of the curriculum being replaced before interplanetary travel is complicated by parking problems.

The yearbook (271 pages) may be purchased from the NCSS, 1201 Sixteenth St., N.W., Washington 6, D.C. ($4 paperbound; $5 clothbound).

—Howard Hurwitz

Voters and Bonds

Is there rising voter resistance to school bond issues? (See Oct. 4 *Scholastic Teacher*, page 1-T.)

According to the National Citizens Council for Better Schools: "There is no discernible trend in the number of school construction issues being accepted or defeated by the voters."

Checking with state education departments throughout the country, the council reports in the current issue of *Better Schools* that there is a lack of reliable figures on the subject and "much vagueness and ambiguity" in those which are available.

Of the 43 states participating in the survey: 14 say that a higher percentage of bond issues were defeated in 1956-57 than in 1955-56. Eight say that the percentage was lower; 11 report "no significant difference"; 10 have no figures.

But these statistics, the council notes, do not tell the whole story. For example, West Virginia was one of the 14 that reported increased rejections last year. In 1955-56, two issues were proposed in the state and both were passed. In 1956-57, four issues were passed and two were rejected. Thus, while the rejections increased 33⅓ per cent, the number of successful issues increased 100 per cent.

Meanwhile, two other studies—one by *School Executive* magazine and the other by the Investment Bankers of America—disclose that in the first six months of 1957, 81 per cent of all bond issues submitted met with voter approval. And, added the IBA, not only are bond issues approved in five out of six instances, but "such bonds find a ready market."

"If any one conclusion can be drawn from the figures received," *Better Schools* commented, "it is that citizens are becoming more discriminating in their voting, and that in communities where the school board and the citizenry have worked hand-in-hand, intelligent decisions, either for or against new bond issues, are reached at the polls."

Teachers' Ethics

A code of ethical personnel practices, outlining the obligations of teachers, administrators and school board members, has been drawn up by the New Jersey Education Association.

The statement of recommended policy was prepared after the association's ethics committee had received persistent reports that some teachers, administrators and board members were using questionable and unprofessional employment procedures.

The code proposes that superintendents "contact prospective teachers from other school districts only after they have applied for a position in the administrator's own school system." School boards are asked "when employing a teacher from another district, to respect all terms of that teacher's existing con-

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The Weekly News Review of Education & Teaching Guide for Scholastic Magazines

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tract." And teachers in turn, the statement says, should obtain release from an existing contract before signing another commitment.

The code also requests teachers to respond to an offered contract within the specified time and to advise their present employer immediately upon the acceptance of another position.

NJEA represents 36,000 Garden State teachers and administrators.

Parents' Role

What role should parents play in the public schools?

According to the Department of Elementary School Principals, educators want parental cooperation. In fact, the DESP report declares, "the more parents are encouraged to express themselves" about the schools, the greater the likelihood that the school program will "reflect the interests and needs of the families whose children are in the schools."

But while cooperation is desired, there is a limit to how far parents should go in school matters. Important aspects of the school program which should be understood by parents, the study says, are: different systems of grading and reporting; use of remedial programs; guidance procedures; increased flexibility in curriculum; and use of the group procedures in the classoom.

Copies of the report, *Parents and the Schools*, can be purchased for $3.50 from National Education Association, 1201 16th St., N.W., Washington 6, D.C.

In Brief

▶**Mary M. Condon,** former Montana state school superintendent, has joined the Division of Rural Services as assistant director.

▶Competition has become so keen for college graduates that the U.S. Chamber of Commerce and the College Placement Council have joined forces to draft an employers' code of ethics: no elaborate gifts, no undue influence by faculty members, no expense account padding by students visiting company plants.

▶Yale this fall begins an experimental program to give engineering students a liberal arts background. Program is financed by $75,000 Carnegie grant. Meanwhile, Carnegie is sponsoring a two-year $100,000 study of graduate education in the U.S.

▶Winners in Audio Devices' contest for education recording ideas (high school division): University School, Southern Illinois Univ., Carbondale, Ill.; Edwin Denby H.S., Detroit, Mich.; and St. Scholastica Academy, Covington, La.

▶An experimental all-year school—Southern Regional High School of Ocean County—has been opened in Manahawkin, N.J. Teachers are employed on a 12-month basis, with a month's vacation. Salaries are above the 10-month normal. Regular classes will be held from September through June, with summers for special educational services to the community.

▶Should students be grouped in classes according to ability? "Yes," say a group of California high school seniors. Attending the 1957 Junior Statesmen Session at Santa Barbara College, the seniors passed a resolution urging more challenging classes for the bright and courses in line with ability for average and slow.

Don't Miss . . .

New Buildings Won't Educate Your Children, by Roul Tunley, in Oct. "Woman's Day." Story of curriculum changes in Tarrytown, N.Y., schools. Three-track system used for low, average, and honor pupils; basics required of all pupils; "mentor system" of using one teacher to serve as a student's adviser throughout high school career.

Television and Reading, theme of the Oct. "Reading Teacher," published by the International Reading Association. Articles include "Television Sends Them—to the Library!" by Charles G. Spiegler; "Children, TV and Reading" by Paul Witty; Write IRA, 5835 Kimbark Avenue, Chicago 37, Ill. ($1.25).

Adventures in Turkey, a 16-page pictorial story of that "crossroads" nation linking Europe and Asia. Available free in class quantities from Turkish Information Office, 44 E. 52 St., New York. With every classroom order of booklets, you will receive a teacher's manual, "The New Turkey," plus a large poster suitable for hanging.

When the President Disappeared, by John Stuart Martin in "American Heritage" (October). Fascinating story of the secret cancer operation on Grover Cleveland aboard a friend's yacht, during the financial panic of 1893.

The Pupil Assistant in the Public Library, by Mary Peacock Douglas. New 56-page booklet outlining duties that students can perform in libraries. (Repairs, cataloging, clerical chores, shelving, charging books, etc.) Write American Library Association, 50 East Huron Street, Chicago 11, Ill. ($1.25).

Class Organization for Instruction, by J. Wayne Wrightstone, number 13 in NEA's "What Research Says to the Teacher" series. Ability grouping, ungraded primary plan, groups within the class, adaptations for low and high-ability students, etc. NEA, 1201 16th St., NW, Washington, D.C. (25 cents).

The Challenge of IGY to Our Schools

By MORRIS MEISTER, Ph.D.

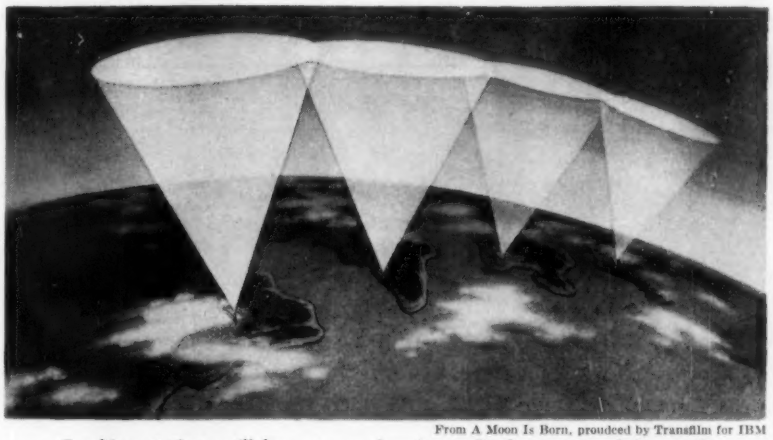
THIS special issue on IGY makes it very clear that an event of historic importance is taking place; that it is our duty as teachers to help youth understand what is happening and how the event may change our lives.

IGY is a grand and masterful plan for learning more about the world we live in. Scientists in at least eleven different fields, working in 64 different countries, are pooling their efforts, so that all may know what each one discovers. Indeed, it is frequently true in science, as in other fields of endeavor, that cooperation is essential for the discovery of truth. Often, the whole is greater than the sum of its parts.

In each of the six or seven "problems" described in this special issue, stress is placed on how it is proposed to solve the problem and how the solution may affect us. This approach is the key to classroom activity; it can be the blueprint that guides both the teacher and the pupil.

Dr. Morris Meister

Dr. Meister received his Ph.D. degree from Columbia University in 1921, and entered upon a distinguished career as a science educator. He taught science in the Horace Mann School, Haaren High School, Teachers College, C.C.N.Y., and has been principal of the Bronx High School of Science since 1938. During World War II he was a consultant to the War Department. He is a fellow of the A.A.A.S., and is a past president of the American Science Teachers Association and other scientific bodies. He has written or edited many authoritative volumes, including *Living with Science* and *Looking Ahead in Education*.



From A Moon Is Born, produced by Transfilm for IBM

Tracking stations will form an overlapping radio fence around the earth to pick up faint radio signals from the artificial earth satellite.

So much of IGY is related to science and scientists, that the temptation is great to leave it all to the science teacher, or to limit IGY considerations to the upper grades. This would be a serious mistake. The fact is that children in the lower grades have always asked of their teachers and parents the very same basic questions that IGY scientists are asking. What makes the weather? How deep is the ocean? What's inside the earth? How and why do the winds blow? What keeps the moon in the sky? How cold is it at the Poles? How can we travel out into space? There has never been a better opportunity to utilize newspapers and magazines for stimulating and enriched reading. Oral and written expression can be centered naturally around the imaginative and dramatic aspects of the IGY story.

There is no end to the possibilities of pupil, group and class activities. Some of these would involve bulletin board displays, library exhibits of clippings, special committees to follow up and report on certain IGY projects, construction of maps that locate the IGY centers all over the world, trips and visits to local centers of IGY interest, IGY word lists and so on.

Most important, however, is the direction which IGY study should take, especially with older groups of children. Here, it is important to consider what certain big ideas of the past did to people and their ways of living. When man accepted the idea that the earth is not flat, but round like a ball, it touched off some adventurous explorations that changed the world. When the Copernican idea was accepted that the sun, rather than the earth, is the center of the universe, religion, literature, philosophy and civilization were all affected. Einstein's famous formula, $E = MC^2$, brought on the atomic age with its appalling dangers and its great promise. Similarly, the successful launching of a man-made satellite by the Russians is a revolutionary idea. For the first time, man fights loose from the force of gravity. Off he goes into a third dimension—into space. What will he find there?

A billion years ago, life came out of the ocean and conquered the land. Slowly, man evolved; but his rate of progress has steadily increased. It took but 200 years to go from the steam engine to the jet plane. How long before man can travel to the moon? It is not unreasonable to expect that he will do this by the year 1977 or 1987. And what does it really matter whether the first man to set foot on the moon is a Russian or an American? If IGY can set the pattern of cooperation among nations, this may be the ultimate preventive to H-bombs and the ICBM.

The challenge of space may force mankind to forget his rivalries by busying himself with this newly developed sense of wonder about the universe. During the Elizabethan Age, navigators rose to the challenge of new regions to explore. They made history, but much of this history is the story of warfare. Today, our future again depends upon how we respond to the challenge of space. Will space supremacy become our objective? If it does, then civilization is truly doomed.

If IGY has any great purpose at all, it is to instill in youth the hope and objective to use our new and rapidly developing knowledge for peaceful and cooperative living both on our own planet and throughout the universe.

Books for Young Readers on the IGY

No science "is an island, entire of itself . . ."

THE interdependence of scientific disciplines emerges sharply in **Exploring Earth and Space: The Story of IGY,** by Margaret O. Hyde (Whittlesey House, $3). With a minimum of technical verbiage and an abundance of line drawings and diagrams by Clifford N. Geary, the volume clarifies and dramatizes for young readers the projects being undertaken during the IGY. The author emphasizes that in addition to increasing our reservoir of basic scientific data, the findings may have immediate social application.

Most intriguing aspect of the IGY is undoubtedly the space satellite. **Rockets Through Space,** by Lester Del Ray (Winston, $3.95), opens with a thorough discussion of what we already know about the realm beyond the earth's atmosphere and outlines the principles of jet propulsion and rocketry. Taking off from there, however, the author (a reputable practitioner of science fiction) deals with plans for human beings to survive where there is no gravity, and poses the dangers to be faced by the first space pioneers. He then speculates on the questions that will be answered only when men are "out there." The illustrations by James Heugh jet-propel the imagination as effectively as the readable text. All these books, of course, were written long before the Russians' recent satellite achievement.

Less technical, though just as readable, is **Rockets, Missiles, and Moons,** by Charles Coombs (Morrow, $3.75). Illustrated with photographs, the volume is suited for younger students.

Vanguard!, by Martin Caidin (Dutton, $3.95), provides a detailed and technical account of the man-made satellite—its background, designing, manufacture, firing, and tracking. The author is an expert on rocket missiles. His volume, illustrated with photographs, diagrams, and maps, is addressed to readers with more than a minimal scientific background.

On a very much lower reading and concept level, suitable for readers in the 7 to 10 age group, is **The Earth Satellite,** by John Lewellen (Knopf, $2.25). Illustrations by Ida Scheib will stimulate young readers.

An exhaustive yet readable introduction to geology for older students is provided in **The Earth We Live On,** by Ruth Moore (Knopf, $6). Employing the techniques of good journalism, yet with no sacrifice of accuracy, the author relates how geologists have found the answers to the questions man has asked about the evolution of the continents and mountains, the upheavals of the earth, the earth's interior, its origin, and its past. Each subject is linked to the geologist principally responsible for discoveries in that field, thus providing readable biographical data. The volume is illustrated with photographs, charts, and diagrams.

On a much less ambitious scale, **The Earth, Our Home,** by Patrick Moore (Abelard-Schuman, $2.50), offers an overview of geology well suited for younger readers. Illustrations are by Patricia Cullen.

An introduction to maps, and how they are made, read, and used is given in **Understanding Maps,** by B. Tannenbaum and M. Stillman (Whittlesey, $2.75). Numerous drawings by Rus Anderson—illustrating how to estimate distance, use landmarks, employ solar time, and plot weather maps—enliven the simply written text.

The importance of the polar regions to the IGY is skillfully developed in **All About the Arctic and Antarctic,** by Armstrong Sperry (Random House, $1.95), illustrated by the author. Written for students in the 9 to 12 age group, the volume answers scores of puzzling questions about the poles.

In **All About the Desert,** by Sam and Beryl Epstein (Random House, $1.95), students in the 9 to 12 age group are introduced to the world of the desert.

A popular introduction to the fascinations of astronomy is offered by **And Then There Was Light,** by Rudolf Thiel (Knopf, $6.95). The reading level is mature, but students willing to plow through the volume will be rewarded.

—ERIC BERGER

IGY Reading List

BOOKS

Senior High School and Adult

Making of a Moon, The: the Story of the Earth Satellite Program, by Arthur C. Clarke, $3.50 (Harper, 1957).

Operation Deep Freeze, by George J. Dufek, $5.00 (Harcourt, 1957).

Quest for a Continent, by Walter Sullivan, $5.50 (McGraw, 1957).

Rocket Power and Space Flight, by G. Harvey Stine, $3.75 (Holt, 1957).

Satellite, by Erik Bergaust and William Beller, $3.95 (Hanover House, 1956).

Then There Was Light, by Rudolph Thiel, $6.95 (Knopf, 1957).

World We Live In, The, by editors of *Life* and Lincoln Barnett, $15.50 (Simon and Schuster, 1955). Junior ed. also pub. by S & S, $4.95.

Elementary and Junior High

Earth, Satellite, The, by John Lewellen, $2.25 (Knopf, 1957).

Exploring Earth and Space: The Story of I. G. Y., by Margaret O. Hyde, $3.00 (Whittlesey, 1957).

Exploring the Weather, by Roy Gallant, $2.50 (Garden City, 1957).

PAMPHLETS

Advancing the Scientific Frontier, General Electric Co., Schenectady, N. Y., free.

Antarctic Prospect, by the *Geographical Review* (reprint), 1957, 35¢, American Geographical Society, Broadway at 156 Street, New York 32, N. Y.

Big Power Plant in the Sky, by *Saturday Evening Post* (reprint), free, Educational Bureau, Curtis Publishing Company, Independence Square, Philadelphia 5, Pa.

Geophysical Year, by W. T. Stone, 1956, $1.00, Editorial Research Reports, 1156-19th Street, Washington 6, D. C.

International Geophysical Year, by Werner Buedeler (UNESCO Publ.), 1957, 60¢, Columbia University Press, Information Documents Service, 2960 Broadway, N. Y. C. 27.

Project Vanguard (limited supply, teachers only), 1956, free, Information Service, Glenn L. Martin Company, Baltimore 3, Maryland.

Proposed U. S. Program for the International Geophysical Year 1957-58, 1956, 30¢, Superintendent of Documents, U. S. Government Printing Office, Washingtor 25, D. C.

The Secret of the Sun, Holiday *Mag.,* free, Curtis Pub. Co., Phila. 5, Pa.

ARTICLES

Artificial Satellite, by James Von Alten, *Scientific American,* Nov., 1956.

Assault on the Secrets of the Earth, by L. V. Berkner, *N. Y. Times Magazine,* Jan. 27, 1957.

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Senior Scholastic

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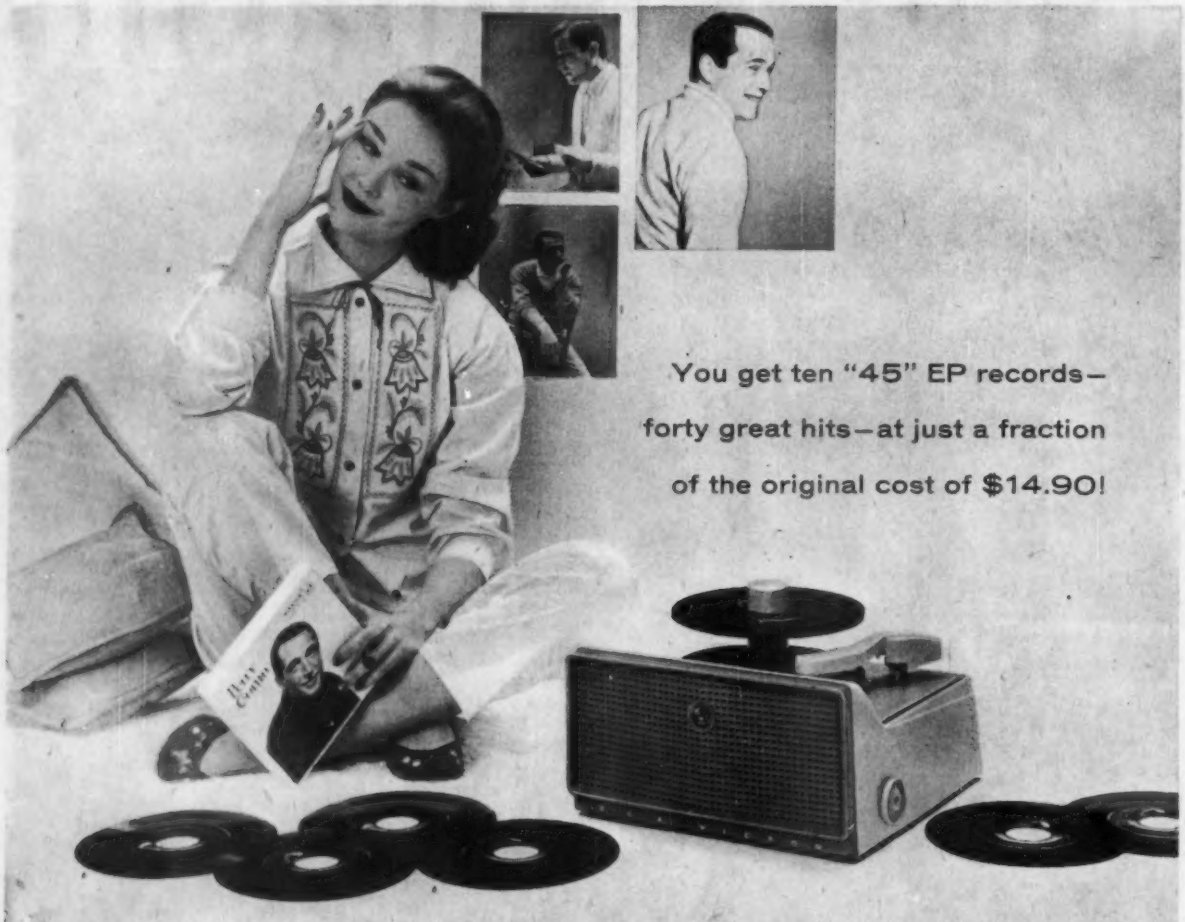

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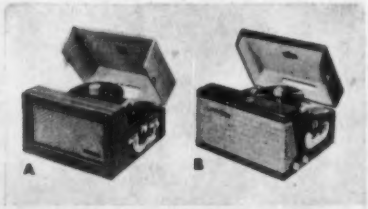

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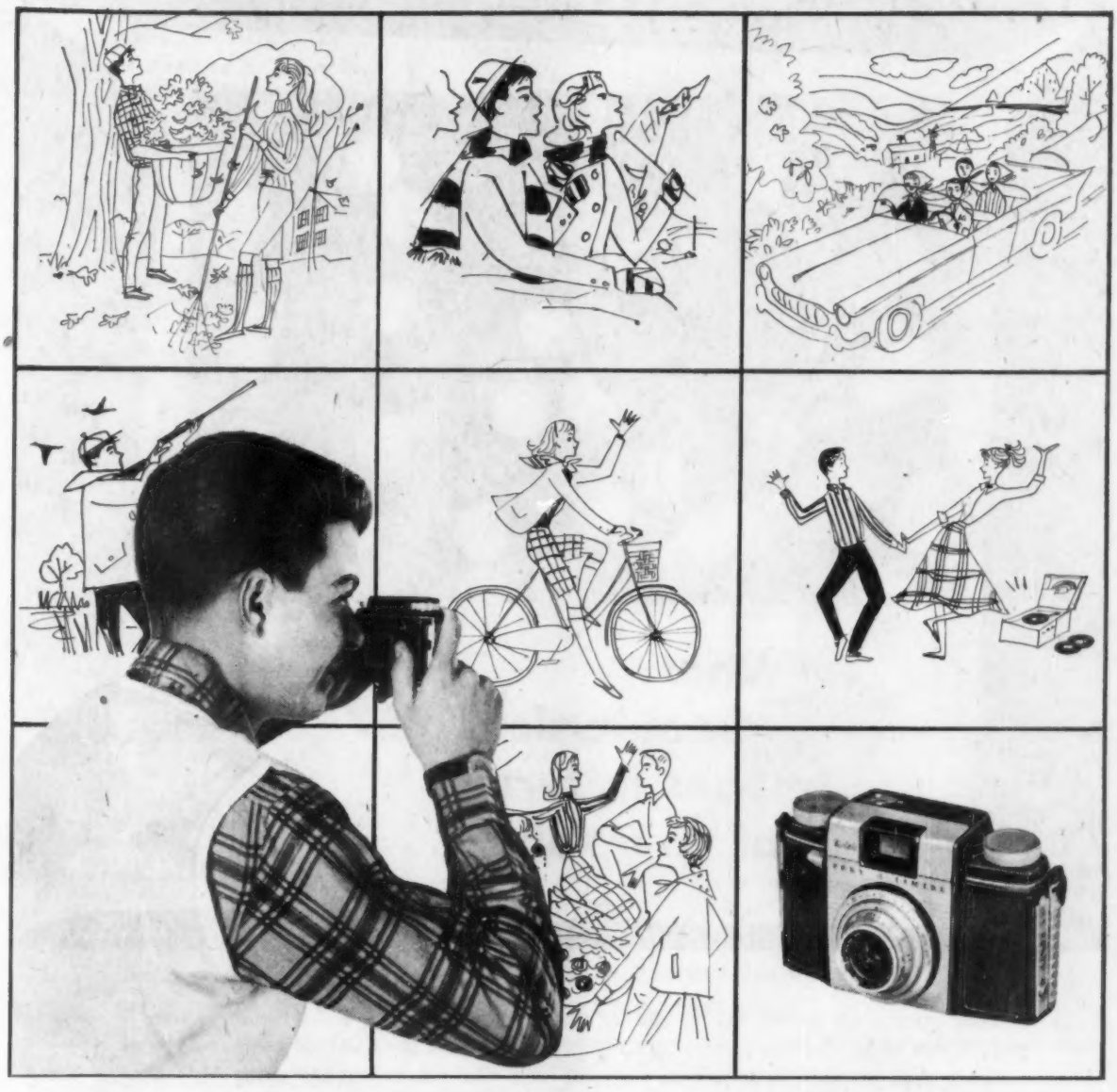

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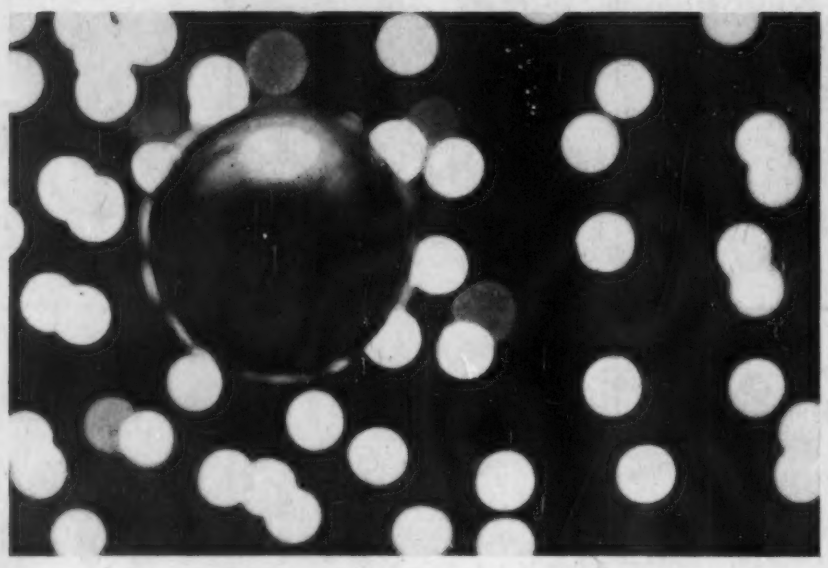

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OUR FRONT COVER

One of the most beautiful of Mother Nature's many phenomena is depicted on our cover this week. It is the *aurora borealis*, also known as "Northern Lights."

This glowing light can sometimes be seen at night in the sky of the Northern Hemisphere. Actually it is always present in nearly every part of the sky—but too faint to be seen except in far northern regions.

Scientists are now engaged in trying to find out more about the aurora. They are doing so as one of many projects for the IGY—International Geophysical Year.

This week we bring you a special issue about the IGY. A table of contents for IGY features is on page 10.

Elsewhere in this issue you will find such regular features as: Understanding the News, p. 7; Boy dates Girl, p. 23; Sports, p. 28; Films, p. 33.

Our Editorial Platform

SCHOLASTIC MAGAZINES are published to promote the education for enlightened citizenship of students in the schools of the United States.

We believe profoundly in, and strive to inspire faith in:

. . . the worth and dignity of the individual;

. . . high moral and spiritual values;

. . . the democratic way of life, with its basic liberties and responsibilities for all;

. . . the American system of constitutional, representative government;

. . . free competitive enterprise and free labor working for abundant production;

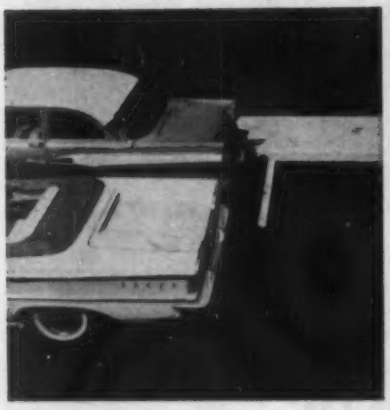
. . . cooperation and understanding among all peoples for the peace of the world.

We are unalterably opposed to communism, fascism or any other system in which men become slaves of a master state.

We aim to present the clearest explanations of current affairs, the best contemporary thought and creative expression, and the most helpful guidance for adjustment to life, adapted to the understanding and interests of youth. Good citizens honestly differ on important public questions and the young people of today need training under wise teachers to participate in solving these problems as the adult citizens of tomorrow. We therefore believe that all sides of these problems should be impartially discussed in the schools and in classroom magazines, with deep respect for facts and for logical thinking.

CAR TALK

How to park your car

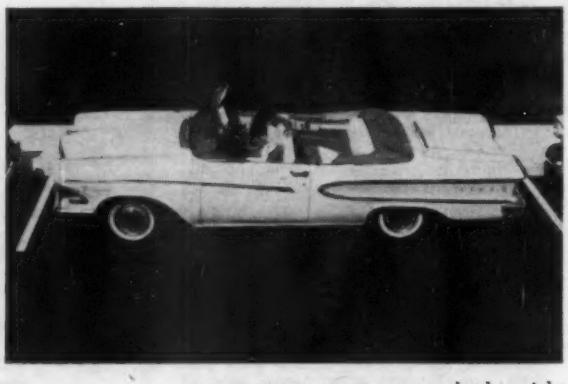


SIGNAL FOR A STOP. Parking area should be five feet longer than length of car. Pull ahead until your steering wheel lines up with that of parked car. Leave about two feet between cars.

BACK VERY SLOWLY, pulling steering wheel sharply to right until car is at nearly a 45 degree angle with the curb. Right front door should be approximately opposite rear bumper of forward car.

STRAIGHTEN FRONT WHEELS. Continue backing into area with front wheels straight until the *right* end of your front bumper is opposite *left* end of rear bumper of the car parked ahead of you.

TURN STEERING WHEEL RAPIDLY TO LEFT as far as it will go while backing slowly. Rear wheel should now be close to curb but not touching it.



GO FORWARD SLOWLY, turn wheel to right to bring car parallel to curb. Stop when it is at equal distance between the front and rear parked cars.

One good test of a skillful driver is found in how well he parks. For it shows he has learned control and he can put his car where he wants it. It's best to practice parking away from traffic until you can do it without touching a marker. It is an important and very necessary step in learning to drive.

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Who Owns Outer Space?

When the Soviet "moon" crossed the threshold of outer space, it left behind more than its "carrier rockets." It dropped into the lap of the United Nations new problems of world law: How would man control this new "dimension" of space?

In the United Nations, the United States has offered to work with other nations to guarantee the use of outer space for "exclusively peaceful and scientific purposes." The U.S. proposal is backed by 22 nations.

The U.S. proposal, however, is only a first step. As science reaches out farther and farther into outer space, other questions will arise:

▶Both the U.S. and the Soviet Union are working on TV and photo satellites. Suppose these could take pictures over every nation on earth. Would this be equivalent to invading the territory of another nation for spying purposes? How should such satellites be controlled?

▶Suppose flying platforms—way stations—are set up in outer space. Should they belong to the nation that erects them? How could we make sure these platforms would not be used to launch missiles against a nation on Earth.

▶Suppose a nation lands a missile—or spacemen, as the Soviets predict they will within five years—on the moon. Would that nation thus have the right to claim the moon? Should the rule be "finders-keepers"? Under present international law, discovery is not enough to give sovereignty to a claiming nation. It must also show settlement. However, the moon is believed to be uninhabitable. Scientists say it is incapable of permanent settlement.

Indeed, it is for this same reason that claims in Antarctica have never been officially recognized. Several nations have made such claims. The U.S. has never made any such claims, and does not recognize the claims of other nations in Antarctica.

In line with this thinking, last week the Commission to Study the Organization of Peace proposed that the U.N. take over control of Antarctica as well as of outer space. The commission is affiliated with the American Association for the U.N.

▶**What's Behind It:** Under present international law, nations own and control the waters along their coastline. The exact distance over which a nation may claim sovereignty is still in dispute. It varies from three miles to 12 miles or more. Beyond that limit, however, the "open ocean" is free to the commerce of all nations.

In the same way, under present law, nations own and control the air space over their territory. This air space extends only as high as planes and balloons—which are supported by *air*—can fly. Space satellites and missiles are not supported by air. They are powered by thrust engines. Does this mean, therefore, that present air law does not apply?

During the International Geophysical Year, space satellites are being launched by agreement. The agreements were approved by scientific delegations representing 64 nations.

Dr. Oscar Schachter, director of the legal division of the United Nations, views this as an encouraging sign. This shows, he says, acceptance of the principle that outer space is not subject to "appropriation or control by individual nations."

Should the United Nations, therefore, begin immediately to draft agreements setting outer limits on the space which a nation may rightfully claim to control? Some experts believe the U.N. should. They propose that the air ceiling over a nation be set at 300 miles. Thus the space *above* 300 miles would be open to international space traffic, just as the oceans are open to all nations.

Other experts believe that if we set up a rigid code of space laws now, we would be doing more harm

Wide World photo

ANTI-REDS WIN IN SAN MARINO—Anti-Communists raise flag over headquarters of provisional government in San Marino as word comes that tiny nation's pro-Red government has given up, thus ending threat of civil war. U.S. and Italy had given diplomatic recognition to anti-Reds several days before pro-Reds quit. (For background on San Marino crisis, see news pages in October 4 issue.)

than good. The attempt would lead to argument and suspicion. It would be best for this space law to grow from custom and practice.

Meanwhile, the Soviet *Sputnik* (Russian for traveler with a traveler —in this case with the Earth) was still whirling around the globe at a speed of 18,000 miles per hour. Its elliptical orbit brought it about 140 miles from Earth at its closest point, and 580 miles at its most distant. *Sputnik* crossed the U.S. seven times a day. It had been observed in Alaska, Australia, Canada, Russia, and the U.S.

Sputnik was not alone in space. It had two fellow travelers—the shell of the third stage rocket that helped to launch the satellite, and the small cone that protected it on its journey upward.

As we went to press, observers reported that meteors were breaking up the carrier rocket shell and the nose cone. *Sputnik* itself was still going strong, but its voice had changed from a beep to a steady tone. The Soviets said its coded messages were being "decoded and analyzed."

The Soviets said *Sputnik* would continue to circle the Earth for a "considerable" time—provided it didn't run into meteoric debris. At the end of its first week in space, however, the satellite was taking three seconds less every 24 hours to complete its revolutions around the Earth. This meant that its orbit was growing smaller. It was traveling closer to the Earth. As it came closer still, it would be drawn into the denser layers of the atmosphere. There the friction would raise its temperature to the point where it would burn up.

Egyptian Troops in Syria

As Egyptian soldiers and tanks landed in Syria, tensions in the Middle East mounted.

The Egyptians were greeted by the Syrian government as "defense reinforcements." They arrived under a mutual defense agreement between Syria and Egypt. This provides for joint military action against a threat of aggression against either country by a third nation. Moreover, since 1955, the Syrian and Egyptian armies have been under the joint-command of Egypt's Chief of Staff.

The arrival of Egyptian troops in Syria came as tensions between pro-Soviet Syria and its neighbor, pro-Western Turkey, appeared to have stretched to the breaking point.

Syrian and Turkish border guards had exchanged gunfire across the sparsely-populated Turkish-Syrian frontier just a few days before. Each country accused the other of "provocative acts."

▶**What's Behind It:** The Middle East powder keg has been sputtering dangerously ever since last summer. Chief trouble spot has been Syria. There, Soviet influence has made deep inroads *(see Sept. 20 issue)*.

As a defense bastion of the free world in the Middle East, Turkey has feared being caught in a giant nutcracker—squeezed between Russia to the north and pro-Soviet Syria to the south.

The free world's worries multiplied recently when Syria began accusing Turkey of planning "aggression." Syrian government officials went so far as to claim that the U.S. was encouraging the Turks to invade Syria and overturn the Syrian government.

This charge was followed by some noisy missile-rattling on the part of Syria's "big friend," Soviet Russia. Communist party boss, Nikita Khrushchev, warned: "If Turkey starts hostilities against Syria this can . . . spark . . . a great war."

The U.S. State Department sharply denied the Russian accusations as an "absurdity." It also reminded the Soviet Union that the U.S. is an ally of Turkey (both countries are members of the North Atlantic Treaty Organization), pledged to come to the Turks' defense in the event of war.

Most Western observers believe that the latest talk of war is just a part of the "Cold War of nerves." They declare that the Soviet Union will do all that it can—short of a shooting war—to increase its influence in the oil-rich Middle East. The U.S., of course, continues to do all *it* can to resist—and push back peacefully—Communist advances.

Communist Currency Coup

In a surprise move, Communist East German police shut off travel between East Germany and West Germany for one day. Their purpose: To enforce a drastic money exchange—and probably plunge 18,000,000 East Germans into deeper poverty.

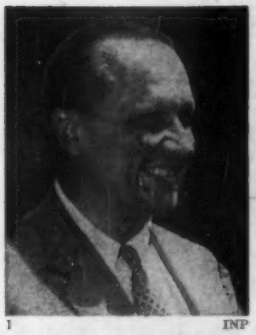
Communist Premier Otto Grotewohl broke the bad news to his people in an 8 a.m. Sunday radio broadcast. He ordered the entire population to turn in all its money (East German marks) within a 12-hour period. In return, East Germans received newly-designed marks. The exchange was on a strict one-old-mark-for-one-new-mark basis.

▶**What's Behind It:** The Red currency exchange dealt a crushing blow to millions of East Germans who have been trying to hide modest sums of money from the Red regime. It did this in the following way:

Grotewohl decreed that all sums above 300 East marks (about $15.80 in American terms) would have to be deposited in Communist-run banks. But any money held in excess

Wide World map and photo

WORLD'S COSTLIEST BRIDGE—Newest and most expensive of world's wonder bridges will open for automobile traffic around November 1 across Mackinac Straits in Michigan. Four-lanes wide and five-miles long, bridge cost $100,000,000 to build. Towers, from which its web of steel is spun, rise 47 stories above water, dip nearly half as far below surface. Mackinac Bridge will speed traffic from state's densely populated, industrial lower peninsula, to upper peninsula areas.



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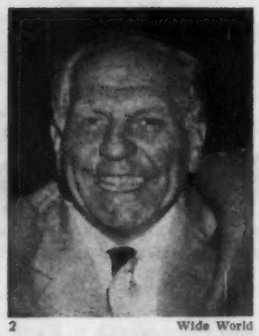


2 Wide World

3 INP

4 INP

FACES IN THE NEWS—Two California Republicans, Sen. William F. Knowland (1) and Gov. Goodwin J. Knight (2), have "squared off" to battle for California's governorship. Knowland, 49, minority leader of U.S. Senate, would rather be state's governor—but Knight, 61, wants another term at the job. Primary next June will decide which man faces Democratic candidate next November. (3) Robert L. King, top aide to Vice-President Nixon, has been named executive director of 1960 Winter Olympics, to be held at Squaw Valley, Calif. (4) George Petty, 28, is new president of AFL-CIO Flight Engineers International Association, making him youngest head of an international union.

of 300 East marks would be exchanged for the new money only *after* the Reds had "investigated" where the money came from. Since all privately-held money (other than petty cash) is automatically suspect in a Red state, this action means that most East Germans will never again see the money they turn over to the Red banks. The government decreed it would confiscate all money found to be held "illegally."

Furthermore, if any East Germans withheld any of the old money, it automatically became worthless.

Grotewohl's explanation for the drastic action was that "West German monopolists and militarists" had amassed large amounts of East German money. The Red leader accused West Germans of using East German marks for spying and for speculating. He boasted that with the borders sealed for the exchange day, West Germans holding millions of dollars worth of East German money "illegally" would be caught with worthless "scraps of paper."

The sudden Red action wiped out the East German money holdings of West Berlin exchange offices. According to one exchange official, the holdings amounted to about $1,100,000 in American terms.

West German financial experts contended that so drastic a move indicates a serious weakness in the East German economy. It amounts, they said, to a confession that goods available in West Germany and in West Berlin are much more attractive to consumers than East German products. Apparently the flow of East German currency into western markets was so tremendous that it was straining the East German economy. It was not being matched by a flow of West German marks into East Germany.

The currency exchange, furthermore, will hurt countless East Germans who have been hiding money to make future purchases in West Berlin, or for possible flights West.

IN BRIEF

1957 Nobel Peace Prize. Lester B. Pearson, former foreign minister of Canada and a former president of the U.N. General Assembly, has been awarded the Nobel Peace Prize for 1957. He has long been a champion of transatlantic cooperation—not only in military affairs (such as NATO), but also in economic, social, and humanitarian fields. Money for the Nobel awards was provided in the will of the late Alfred Nobel, the Swede who invented dynamite.

Hoffa Barred from Office. A Federal District Court judge issued a "temporary restraining order" barring James R. Hoffa from taking office as Teamster's Union president. The order, signed October 14, bars Hoffa from being sworn into office for ten days, and may be continued for another ten days beyond that. Hoffa and the new officers were scheduled to take office October 15. The court order was issued after a New York group of rank-and-file union members charged that Hoffa's election as president of the Teamsters was "rigged." *(For background of Teamster election, see news pages in last week's issue.)*

Death Toll for Rock 'n' Roll? As Debbie Reynolds' recording of *Tammy* entered its twelfth week as the nation's top song hit, Debbie's husband, singer Eddie Fisher, waxed a bit philosophical. "It's a good sign," he said, "when a simple ballad . . . can be a hit. Maybe this will hurry along the end of rock 'n' roll, which is already on the decline." With *Tammy*—a song about a teen-ager in love—movie star Debbie has become one of the few girl singers ever to sell over a million records.

No one seemed more surprised by this than Debbie herself. "I'm not even a singer," Debbie commented modestly in Hollywood. "I've got no business having a hit record. I feel like apologizing to gals who are really in the business—Patti Page, Jo Stafford, Rosemary Clooney, and the others." The girls, however, were taking a different view. They were all happy about Debbie's hit. They hope it will bring back the days of hit records by women, who got shoved aside by the guitarists, drummers, and quartets of rock 'n' roll.

Diamond Daze. Next year, for the first time in its 118-year-old history, America's national game will become just that—a sport spanning the country from New York to California. In the wake of the Milwaukee Braves' victory over the New York Yankees in the 1957 World Series, New York has lost not only its world baseball crown, but two of its three teams. Brooklyn's long beloved "Bums"—after 67 years in New York—will become the Los Angeles Dodgers next year, while the New York Giants will make San Francisco their home base. Plans for new stadiums are under way in both cities.

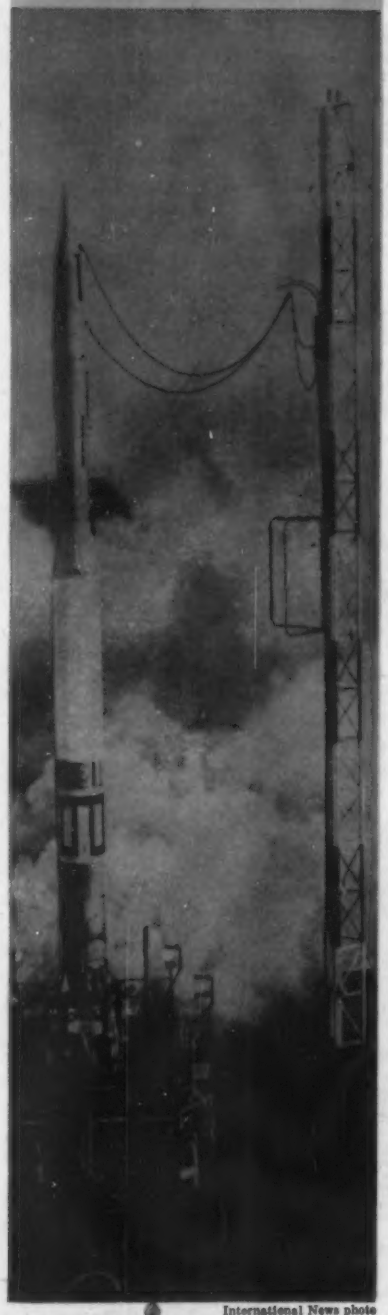
Quick Quiz ON THE NEWS

1. Which of the following nations were directly involved with events in the Middle East and how were they involved? (a) Egypt; (b) Syria; (c) Algeria; (d) Turkey; (e) the U.S.

2. Under present international law, to what height can a nation claim sovereignty in the air above its territory?

The ABCs of IGY

How the International Geophysical Year was born and what it hopes to achieve



International News photo

Three-stage rocket will lift U. S. satellite 300 miles, orbit it around earth.

SCIENTISTS, like most other people, often "talk shop" when they gather informally. Such was the case one evening in 1950. A small group of scientists and their wives had just had dinner together. After dinner, conversation swung to science. Subject of the conversation: polar years.

What are polar years? Two of them have been held in the past.

The First International Polar Year took place in 1882-1883. Several countries cooperated to set up scientific bases in the Arctic. Information collected at these bases added greatly to the world's knowledge of Northern Lights, magnetism, and weather.

The Second International Polar Year was held half a century later. It too was centered on the Arctic. Scientists from 12 countries pooled their efforts. The results enabled scientists to improve long-range radio broadcasts, and paved the way to advances such as radar. This polar year proved so successful that plans were made to hold a polar year every 50 years.

In 1950, only 18 years had elapsed since the start of the Second Polar Year. But one of the scientists at the dinner party suggested that a third polar year be scheduled for 1957-58. Reason? Scientists had developed many new and revolutionary scientific instruments. What's more, a period of intense solar activity was predicted for 1957-1958.

But another scientist took a slightly different position. Why, he wanted to know, should the "year" be confined solely to the Arctic? Why not make it a round-the-clock, round-the-world attack on *all* the mysteries of geophysics—the science of the Earth and man's physical environment?

The other scientists at the party were immediately "sold" on the idea. In the days that followed, they told their friends about the idea. They also made speeches about it before scientific organizations. The idea snowballed. And thus the International Geophysical Year was born!

IGY actually is an 18-month "year." It opened on July 1, 1957, and will run until December 31, 1958. Today, 64 countries have enrolled in the IGY adventure. They will spend a total of more than $500,000,000 to give the Earth its most thorough physical examination in history.

Each country will carry out its own assault on the secrets of the Earth. The information collected by each country will be made available to all nations through three World Data Centers. These centers are located in Western Europe, the Soviet Union, and the U. S.

The stellar attractions of IGY are man-made "moons." For the first time in history, man has fought loose from the grip of gravity. He has stepped off the Earth into a new dimension—space.

It took man only 200 years to leap from the steam engine to the jet plane. How long will it be before man can travel to the moon? By 1977 or 1987, scientists say. The challenge of space may force man to forget his rivalries on Earth and cooperate with his fellow men to conquer space. Thus IGY may show the way to peaceful and cooperative living on our own planet—and throughout the universe!

Orbit will lie between 35°N and 35°S.

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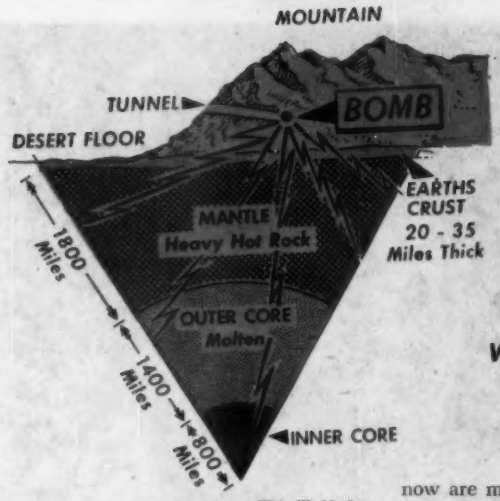


Wide World photo

Man-made quake caused by A-bomb in Nevada let scientists measure shockwaves.

Inside Earth

We know little about the Earth beneath our feet

MAN knows surprisingly little about the Earth beneath his feet. He is not even certain what types of rocks lie beneath the Earth's thin crust. Nor can he predict when and where earthquakes will occur.

When Columbus said the Earth was round, he was only partly right. It is really flat at the poles and bulging at the equator. The Earth's irregularities have never been charted accurately. Thus maps often differ from each other in giving distances between points.

More Accurate Maps Ahead

Mapmakers know how to make maps more accurately. But they lack one bit of necessary information: the force of gravity at different points throughout the Earth. If they had this information, mapmakers would be able to determine the distances of those points from the center of the Earth, and the angle of tilt of the Earth's surface at those points. Thus they could map the exact distance from one of those points to another.

Before the start of IGY, extensive gravity measurements were made only in populated areas. But IGY scientists now are measuring gravity in even the most remote areas. They are even cruising in submarines to measure the Earth's gravity beneath the oceans.

Scientists measure gravity with an instrument called a "gravimeter." They already have uncovered some fascinating facts with the help of gravimeters. Like the oceans, the crust of the Earth responds to the gravitational pull of the sun and moon. Gravimeters have disclosed that these Earth "tides" raise and lower the Hawaiian Islands by as much as three inches each day!

While some IGY scientists map the surface of the Earth, others are probing deep inside it. Their task: To learn more about earthquakes and the composition of the Earth's interior.

What causes earthquakes? The rocks inside the Earth are constantly being tortured by tremendous stresses and strains. Sometimes the tension becomes so great that the rock breaks at lines called "faults." This sudden movement of rock layers beneath the Earth's surface causes earthquakes. Most occur between 30 and 500 miles below the Earth's surface.

Scientists measure the intensity of earthquakes with "seismographs." Seismographs record the seismic (or shock) waves given off by an earthquake. These shock waves penetrate deep beneath the Earth's surface.

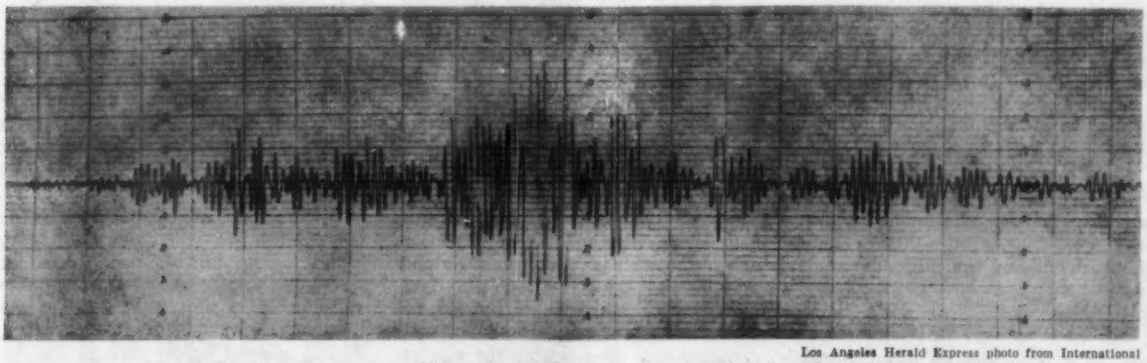
Scientists can pinpoint the location of an earthquake by comparing readings from different seismographs. During IGY, scientists are getting out seismographs in areas where they were scarce or nonexistent before. This will help scientists to learn more about earthquakes.

Seismic waves travel at varying speeds through different type of rocks. By timing seismic waves, therefore, scientists also can learn the kinds of rock that make up the Earth's core.

Man-made Earthquake

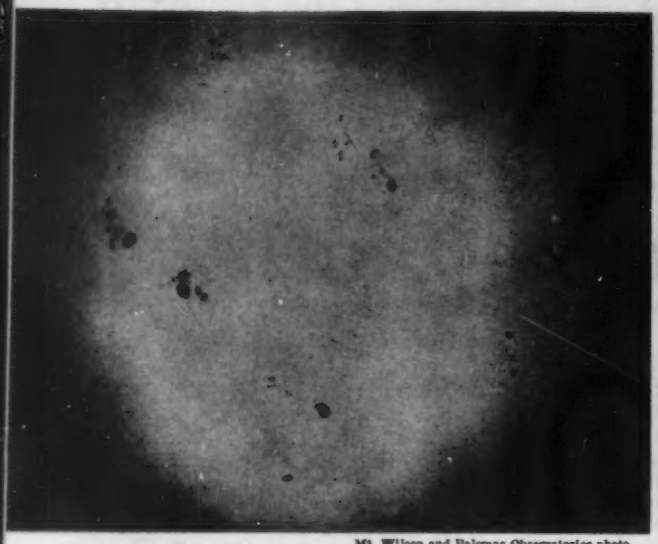
Last month, U. S. scientists set off an atomic bomb in an underground tunnel. Purpose of the blast: to create a man-made earthquake. Its shock waves were picked up on seismographs more than 300 miles away. Later, scientists may explode larger atomic bombs inside tunnels. Why are man-made earthquakes so important? The answer: They give scientists time to prepare their instruments to record the shock waves. Natural earthquakes occur unexpectedly.

As scientists learn more and more about earthquakes, they will be able to design earthquake-proof houses and buildings. Such buildings are necessary in areas where earthquakes are frequent. Eventually, scientists may even learn how to forecast earthquakes.



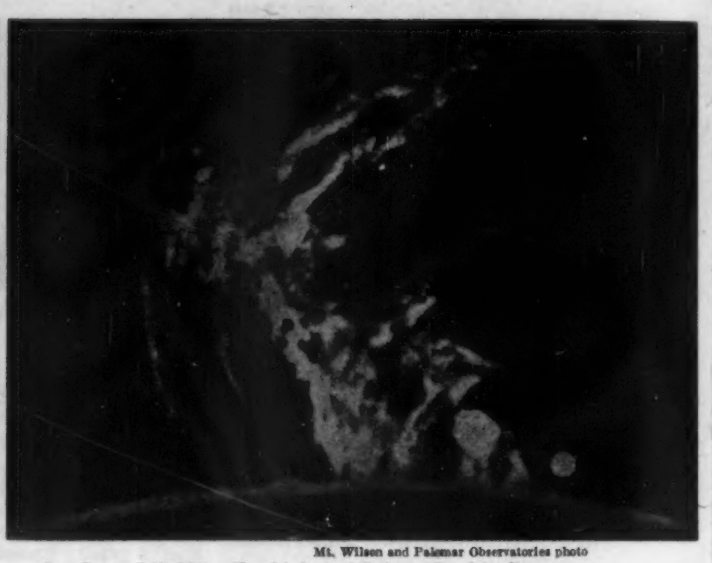
Los Angeles Herald Express photo from International

Man-made quake set off in Nevada was recorded as shown above on seismograph at Pasadena, Cal., hundreds of miles away.



Mt. Wilson and Palomar Observatories photo

Sunspots, dark "storms" on sun, usually precede solar flares.



Mt. Wilson and Palomar Observatories photo

Sun flare, 140,000 miles high, is 17 times Earth's diameter.

The Sun— Tyrant and Benefactor

Our way of life on Earth is shaped by what happens more than 90,000,000, miles away

SCIENTISTS watching the sun on June 28 saw an immense flare leap from its surface. Super-hot gases within the sun had boiled up with hurricane force and burst into the solar atmosphere. As the gases erupted they released millions of tons of atomic debris which swept across space and showered down into the Earth's upper atmosphere. Result: a few hours later electrical disturbances eclipsed England with a radio blackout that lasted 30 hours.

Other storms on the sun affect us in still different ways. They cause brilliant displays of the aurora to light up the northern and southern sky. Ships at sea report that their magnetic compass needles suddenly begin to quiver mysteriously. People in the U. S. watching a local television program have been amazed to see a bull-fight telecast from Mexico suddenly flash on their screen.

Meteorologists suspect that solar activity may be closely related to long-range weather changes. Some scientists have even wondered whether man's temperament and the migration routes of birds may somehow be affected by solar disturbances.

The latest research techniques should give us a good idea of what happens inside the sun and of how the sun affects us. But the mystery of the sun grows more complex as we learn more about it.

Astronomers have long known that the sun can be "quiet" or extremely "active." Solar "tornadoes" and "hurricanes" are daily occurrences. But every 11 years the sun grows particularly active. We are now in the midst of one of the sun's most active periods. This was one of the reasons IGY was scheduled for 1957-58.

Mysteries to Be Solved

Among the solar outbursts currently visible to astronomers are thousand-mile-long darts of flaming gas called "surges." We can also see explosive flares of glowing gases which leap 200,000 miles or more into the solar atmosphere. Then there are lazy gaseous loops which slowly billow hundreds of thousands of miles into space and fall back into the sun.

Of all the solar activity, sunspots have received the closest attention. They appear as immense black patches that move across the sun's surface. Exactly how sunspots are formed still baffles scientists. One theory: "magnetic disturbances," deep within the sun, release great gushers of hot gases. These speed to the surface at about 1,800 miles an hour. There they break through and hover in great clouds just above the sun's surface. As the clouds cool they turn dark. Therefore, they appear black against the bright background of the sun's surface. Sunspots may range up to 60,000 miles in diameter. They seem always to appear in pairs. It is believed that one spot has a negative charge of electricity, the other a positive charge.

About 25 hours after a group of sunspots breaks out on the sun we can feel their effect. Scientists think the sunspots shoot barrages of atomic particles into space. As these particles approach our planet, they apparently are deflected toward the north and south poles by the Earth's magnetism. Thus the particles sweep into our atmosphere in greater concentrations at high northern and southern latitudes than at the Equator.

During these atomic barrages in the polar latitudes, magnetic storms are found in the Earth's atmosphere. At such times ships' compass needles quiver and people in the polar latitudes see brilliant auroral displays of dancing, folding colored lights, such as are depicted on our cover.

Eastman Kodak photo

Sun flares, now at 11-year peak, are huge atomic explosions.

Sacramento Peak Observatory photo

"Loop prominence" is arcing thousands of miles into space.

Magnetic Storm Center

In the short time IGY scientists have been studying auroral displays they have made important discoveries. Two months ago they confirmed one suspicion—northern and southern lights occur simultaneously.

In addition to touching off auroral displays, sunspots are believed to "charge" the upper reaches of the atmosphere with electricity. When this happens, our living room radios sputter with static. The announcer's voice may fade out for seconds or minutes. Or there may be a complete blackout lasting for seconds, minutes, or hours.

Astronomers suspect that sunspot activity is closely related to the giant flares that burst from the sun. Flares, like sunspots, belch millions of tons of atomic particles into the Earth's atmosphere, together with ultraviolet rays, cosmic rays, and X-rays. Last year astronomers saw a spectacular flare that released an amount of energy equivalent to a billion H-bombs exploded in one blast. A few minutes after the flare was seen, the Earth was caught in a cosmic ray shower lasting 16 hours. Fortunately, these particles (which travel close to the speed of light) are slowed down high in our atmosphere, so they do not reach us in full force at sea level.

The ultraviolet rays reaching us as a result of solar activity raise havoc with the electrical charge of our atmosphere. This is when radio communication fades or blacks out. This is when FM and television signals skip across continents.

How the sun's corona affects us on Earth is still another solar mystery. The corona is the pinkish glow we see around the circumference of the sun during an eclipse. When the sun is active, the corona flashes out, covering an area many times its normal size. Another mystery of the corona is its high temperature—about a million degrees. Why, scientists wonder, should the corona be so "hot" while the surface of the sun is only about 6,000 degrees?

24-Hour Watch

These and a host of other puzzling questions about sun-Earth relationships are being studied during IGY. Astronomers around the world have been keeping a 24-hour watch on the sun. In a chain of at least 50 stations stretching around the globe they are photographing the sun every three minutes. Their photo records, keyed with records of electrical disturbances in the Earth's atmosphere, will give us a better understanding of how solar outbursts affect our lives on Earth.

To study auroral displays, the United States IGY committee is collecting data from 120 weather stations and 56 volunteer stations. As information is collected, it is punched on cards at Cornell University in New York State. Later the information will be analyzed. Other groups are using cameras and Geiger counters. They send these aloft in balloons to photograph the sun in the thin air 80,000 feet above the Earth's surface.

Auroral displays are also studied with rockets. Soon after a flare erupts on the sun, a rocket is sent up on a "quickie" mission. Inside the rocket are instruments to sample the atmosphere at various altitudes.

Long-term research missions at high altitude are reserved for the Earth satellite. Circling the earth for weeks or months the satellite will be able to feed scientists on the ground a continuous stream of information about cosmic rays, electrons, X-rays, and ultraviolet rays. While low altitude rockets and balloons can measure these particles within the Earth's atmosphere, the satellite will be able to measure them before they plunge into the atmosphere.

Answers to Weather

As scientists learn more about the radio reflecting layers of the atmosphere, they will also learn more about long distance radio and television transmission. We will also learn more about unused radio and TV frequencies.

A better understanding of the sun-Earth relationship will also help our meteorologists predict short-term and long-term changes in the weather. Looking to the sun as weather-caster, as well as weather-breeder, Ralph Shapiro, Air Force research scientist, has examined 40 years of weather records covering North America. He has found that from 10 to 14 days after the sun has bombarded the Earth with heavy streams of atomic particles, a definite break in the weather has occurred.

His conclusion: bombardment of the Earth by solar particles foreshadows a weather change. But to say that the change will be rain, snow, or a dry spell will require a much more intimate knowledge of the Earth's atmosphere. This is where IGY's teamwork fits in.

Probing the Poles

In the Arctic and the Antarctic man may find clues to the future of the Earth

ANTARCTICA covers one sixth of the Earth's surface, is vast and lonely. But it is now the scene of frantic IGY activity. Scientists of 12 nations are probing its earth and air, the ice beneath it, the sky above.

Not until 1955 was Antarctica ever inhabited by more than a handful of men. Then, in a huge buildup for the IGY, scientists set up some 60 permanent bases to withstand the violent and incredible lonely "winter" months from March to September, when the sun never rises.

By the time "winter" began last spring, Antarctica's population numbered in the thousands—more than 3,000 from the U. S. alone.

It was an enormous effort—the U. S. expenditure alone was $55,000,000. But the answers the scientists expect to turn up to the riddles of the Earth will probably be a bargain at that price.

The Antarctic is a mysterious continent covered with ice and snow. But scientists think it was once a tropical land of trees and swamps. By digging down through the layers of packed snow they hope to uncover, page by page, a revealing history of the continent.

Weather Factory

Electronically they will probe much deeper. They have already discovered that the ice sheet is 10,000 feet deep in some places. How did they find this out? By setting off explosives and measuring the time it takes for the sound waves to go down through the ice and bounce back.

Below the ice they have found solid rock—not water as some experts had predicted. Whether this ice is slowly melting, or, as some scientists think, becoming thicker, is one of the most important problems of IGY.

Meteorologists think of Antarctica as a great weather factory. A huge wobbly mass of icy air hovers over the 10,000-foot-high plateaus of inland Antarctica. From time to time an icy chunk of air breaks away from this giant icebox to circle the globe in high altitude air currents, affecting all the world's weather.

Why? And how can this be predicted? How does the incredible cold (an icy 102.1 degrees below zero F was measured this winter) affect human beings?

Scientists will also poke into the great masses of glacial ice. Their studies will reveal much about past climates and help them develop a yardstick for long-range weather forecasts.

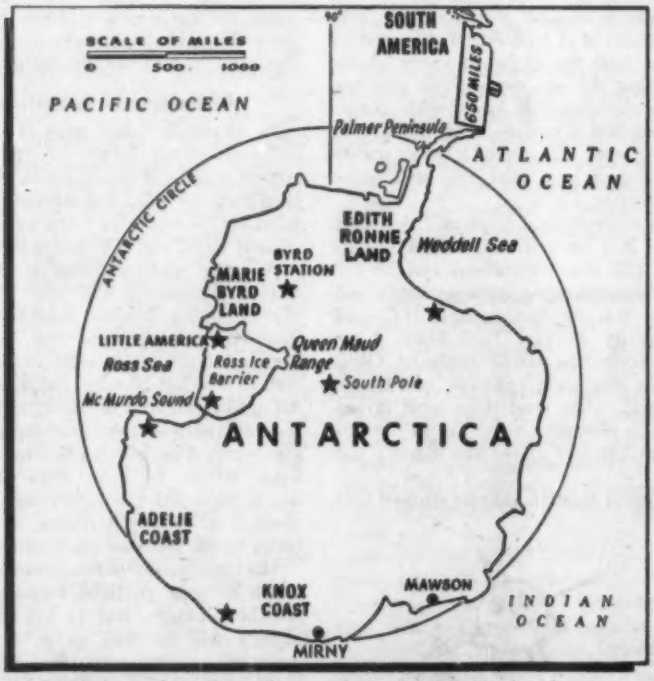
Oddly enough, the IGY Antarctic sun studies will be of particular interest—even when the continent is in darkness during its six-month winter.

Solar radiation is thought to be the chief agent in breaking up atoms to form the ionosphere—the blanket of air between 50 and 150 miles from the Earth's surface (*see diagram, page 16*).

Mystery of Magnetism

But what happens when there is no sun for six months? Does the ionosphere disappear, or, as some think, descend below the 50-mile level? A series of Antarctic rocket firings will help experts find out.

The Antarctic is also the best place in the world to study the aurora australis, or Southern Lights. Sometimes they play havoc with the Earth's magnetic field, and disrupt short wave



We know more about face of moon than about Antarctica, frozen continent two thirds size of North America, once a tropical paradise.

communication. At other times—and often at the poles—transmission is improved. Why is just one more mystery.

Although more money has been spent on the Antarctic effort, the Arctic is just as important to IGY. And in some ways it is more dramatic.

Within the Arctic circle lie parts of Alaska, Greenland, Canada, Europe and the USSR. But to get really close to the pole, as scientists have done in Antarctica, you have to fly over it.

Next best is inhabiting a floating slab of ice. For some years the Russians have inhabited ice islands. Now, as part of IGY, the U. S. has built stations on two of them. One of them, called T-3, is a full-fledged ice island, a flat-topped iceberg 150 feet thick and about the size of Bermuda. The other, Station A, now cruising north of Point Barrow, Alaska, is a perilously thin slab of floating salty ice.

Life on an Ice Island

Living on ice islands is a hazardous business. When summer comes they sometimes break up. The melting snow and ice can make it impossible for planes to land. But to scientists ice islands are made to order. They are floating laboratories wandering through some of the world's most fascinating waters.

In the Arctic Sea some fish have adapted themselves remarkably to the icy water. Just how these organisms are able to survive the cold is still not known. Even more mysterious is their ability to live on a meager six-month diet of sun. Most marine organisms cannot do without a 12-month supply.

Scientists will also be studying the land life of the Arctic. One scientist installed a tiny radio transmitter, capable of measuring and transmitting temperatures, inside an Arctic bird's egg. Then he substituted it in a nest for a real egg. When the mother bird returned and sat on the egg, the scientist was able to measure the incubation temperature.

Photo from Daniel Linehan, S.J., Weston Observatory, Weston, Mass.

Seismic recorder probes depth of ice sheet. Device measures time it takes for sound waves of an explosion to go down through ice and bounce back.

The scientist hopes to relate the findings to an age-old problem: How to keep men alive in temperatures for which they were not biologically designed to survive.

A vast rocket program is going on around the fringes of the Arctic Circle. The rocket firings have resulted in some surprising findings. Winter winds high over the Arctic blow at a breathtaking 335 miles per hour.

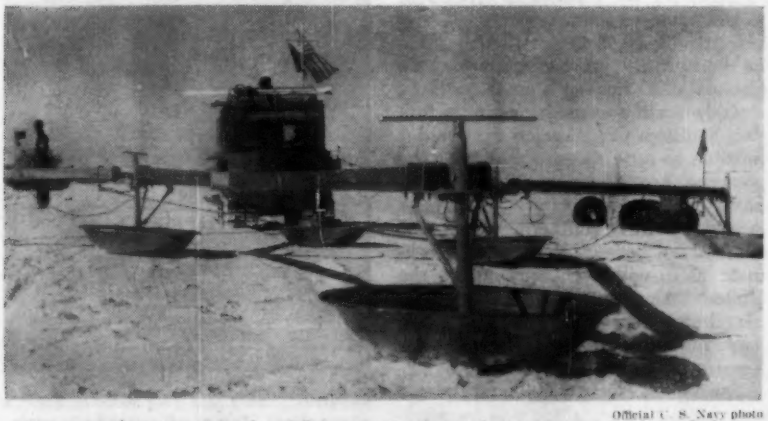
At all IGY stations in the Arctic—there are about a hundred of them—scientists will be performing the same experiments they are carrying on in the Antarctic. They will measure temperatures, wind velocities, how fast the ice is melting, earth tremors, the strength of the earth's magnetic field, how much it varies, the salinity (salt) content and pressures of seawater, the thickness of ice, and a hundred other factors.

Clue to Earth's Future

When scientists finish probing the poles, they will know some of the secrets of the great north and south weather factories. The result will be better weather forecasting, perhaps for weeks or months in advance instead of the present few days.

Knowledge of the wind, ice, and water, and how they interact, may give them the clue to the future of the Earth. Will there be another ice age, or is the earth now warming up? Will farmers be able to use northern lands, now ice encrusted, for producing foods to feed the earth's expanding population?

Perhaps most important, man will be finding out just what his planet is made of. Scientists know more about the face of the moon than they do about the largely unexplored areas at each end of the earth. But they intend to clear up the mysteries of our planet before they start talking seriously about blasting off to another.



Official U. S. Navy photo

Crevasse detectors (circular "dish pans") shoot electric impulses through ice. Hidden break in ice causes current to drop, sounding warning buzzer in weasel.

Whither Weather?

Research will give accurate weather and climate predictions

IS IT possible to predict accurately the kind of weather we will have next month? Next year? Ten years from now?

During IGY, weathermen around the globe will be collecting data that may enable us to do long-range weather and climate forecasting.

Do Meteors Affect the Weather?

E. G. Bowen of Australia thinks meteors may affect our weather. His research shows that meteoric dust falling into the earth's atmosphere seems to step up rainfall around the world on certain days each year. If other scientists confirm his finding, astronomers may become an important link in the chain of weather data collectors.

Are Automobiles and Factories Bringing a Change in World Climate?

Each day our factories burn coal, oil, and other fossil fuel. These fuels release tons of carbon dioxide into the atmosphere. Most of this gas is dissolved by the oceans or absorbed by plants and minerals. The surplus is trapped in the atmosphere, where it hangs like a blanket covering our globe.

This carbon dioxide blanket produces a "greenhouse" effect on the Earth. The sun's rays can pass through the blanket easily—just as they pass through the glass on a greenhouse—to warm the Earth. But some of the heat absorbed by the Earth is trapped under the blanket, just as it is in a greenhouse.

Scientists are now making a careful study of the Earth's carbon dioxide and what is happening to it. One reason for their concern: In 1950 we released 9,000,000,000 tons of carbon dioxide into the air. The forecast for the year 2010 is 47,000,000,000.

Some scientists feel that we cannot continue to increase the rate at which we produce carbon dioxide waste. If we do, we may one day upset nature's delicate carbon dioxide balance. The carbon dioxide blanket will become thicker and thicker. The effect may be a rising average world temperature. A temperature rise of only two degrees is enough to melt the Antarctic and Greenland icecaps. This would flood the Earth's coastal lands so that sea water would flow through the streets of New York and Boston.

How does the Earth's Radiation Balance Change?

V. E. Suomi of the University of Wisconsin will measure the amount of solar radiation that manages to reach the lower atmosphere, how much is reflected from clouds, and how much from snow-covered areas. With such information meteorologists will have a better understanding of local and large area weather changes.

Can the Climatologists Predict Our Long Range Future?

According to Svend Frederiksen of Washington's Arctic Institute, a significant climate change is taking place in the north: It's growing warmer. In Canada the timber line is pushing steadily north across the warming tundra. Southern Greenlanders now find it possible to raise sheep and cattle. The warming Arctic seas are forcing seals north into colder waters. Cod have moved up from southern waters. Dr. Frederiksen believes that this slow climate shift will eventually affect the United States. Southern states can expect hotter and drier weather, which may require extensive irrigation for farmlands.

During IGY about 2,000 land stations and 2,000 weather ships will be sending in weather readings four times a

(Continued on page 32)

Diagram shows first 350 miles of Earth's atmosphere. Extent of exosphere is unknown. Balloons, rockoons, rockets, and "moons" will be used to study atmosphere.

Jan Hahn photo from Woods Hole Oceanographic Institution

Ocean samples from various depths are tested for minerals, algae, temperature.

Sounding the Oceans

Answers to some of man's problems may come from the deeps

THE British ocean liner *Corinthic* cruises regularly through the balmy South Pacific Ocean. One day recently, the *Corinthic* was nosing past an uninhabited desert island. Suddenly her captain saw a man on the beach. The man was waving. The captain waved back and sailed on.

For the captain knew about the International Geophysical Year (IGY). He had heard that IGY scientists were constructing a tidal gauge on one of the islands in the area to measure the rise and fall of the ocean's tides. He thus assumed that the man on the beach was just another scientist.

A few days later, the *Corinthic* reached port in New Zealand. The captain mentioned the "scientist" he had seen on the desert island. Much to his surprise, he learned that all the IGY scientists were on another desert island—miles away from the one the *Corinthic* had passed!

Then who was the man on the beach? A rescue party found the answer. He was a shipwrecked American who had spent 40 days on the waterless island with only a tame monkey for company. Fortunately, neither man nor monkey was any the worse for wear.

This ironic story actually is a tribute to the scientists participating in IGY. For it shows how they have made IGY a byword in the remotest corners of the Earth.

The ocean blankets four fifths of the surface of the Earth. But oceanographers know little about the ocean's many mysteries. Here are some of the problems that oceanographers hope to solve during IGY:

Currents and Weather

Some ocean currents are warm. Others are cold. As these currents circulate, they warm or cool the land masses past which they flow. Thus currents are part of the ceaseless process that keeps winds blowing and weather changing.

Japanese oceanographers, for example, recently reported that a major current off the east coast of Japan had shifted its course. This current is composed of cool water. It flows across the Pacific toward North America. The Japanese oceanographers found that this cool current had shifted two degrees south. Result? Next summer may bring cooler weather for the Aleutian Islands, Alaska, and the Pacific coasts of Canada and the U.S.

Why do ocean currents shift unexpectedly? Oceanographers hope to find the answer during IGY.

Results of these studies may have an important effect upon human beings. Increased knowledge of ocean currents will tell meteorologists more about the Earth's weather. It may make possible improved long-range weather forecasts.

Oceanographers have another reason to study ocean currents. The ocean's fertility depends upon the movement of deep water from the bottom of the ocean to its surface. Most of the fish and the other foods in the ocean live relatively near its surface. For this is where sunlight causes tiny plants to grow and multiply. These tiny plants, called "algae," live on minerals dissolved in the ocean's water.

The algae furnish food for tiny organisms. These organisms are eaten by larger ones, which in turn provide meals for small fish, which are then eaten by large fish.

Thus the minerals at the surface are constantly being depleted. But thanks to currents, they constantly are being replenished. For there are plenty of minerals stored on the ocean's bottom.

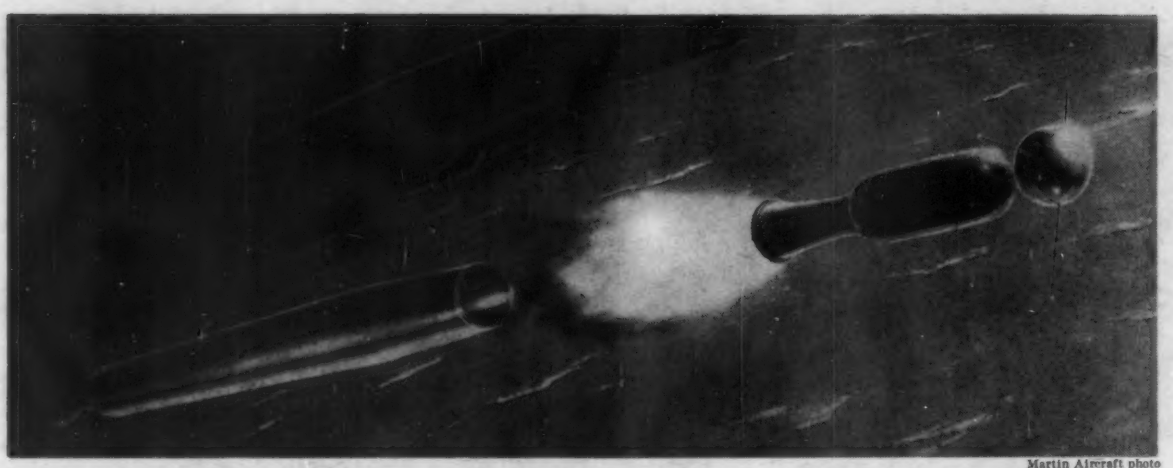
Oceanographers now are trying to learn why the ocean refertilizes itself faster in some places than in others. They also want to locate the areas where the ocean is most fertile.

Once scientists locate these fertile areas, bigger and better fishing harvests will result. This is very important. For the Earth's population is increasing rapidly. Each day, there are 120,000 more mouths to feed, each year 43,000,000. Result? Fish will become more and more important as a source of protein food.

Floating Laboratories

Today oceanographers are combing the seven seas with a fleet of 60 ships from 15 different countries. From these "floating laboratories," oceanographers are sounding ocean depths, measuring water temperatures, charting undersea mountain ranges and valleys, timing the speed of ocean currents, and sampling its food content.

(Continued on page 32)



Martin Aircraft photo

Satellite will reach height of 300 miles in about 10 minutes, then orbit around Earth at speed of 18,000 m.p.h.

Project Vanguard

Third stage rocket kicks into orbit at 18,000 m.p.h., then drops off
Second stage rocket drops away at height of 300 miles
140 miles high
Speed: 11,000 m.p.h.
35 miles high
Speed: 5,000 m.p.h.
First stage drops away

Vanguard is three-stage rocket, as shown in diagram. Although launched vertically, rocket will gradually climb eastward. It will orbit in same direction as Earth rotates, west to east. Thus rotation of Earth gives satellite added whip. Once up, "moon" will range in elliptical path across populated area of world.

"FIVE . . . four . . . three . . . two . . . one . . . FIRE!"

The firing officer will wait one more full second. Then he will jab his finger down on a red firing button.

Instantly a tall rocket will roar to life. A blinding tail of flame will blaze from its exhausts. With rocket engines thundering, the rocket will leap spaceward *with a man-made moon in its nose!*

This is what will happen when the U.S. triggers Project Vanguard into action. What is Project Vanguard? It is a $110,000,000 attempt by U.S. scientists to hurl a series of man-made moons into outer space.

The first Earth satellite to be launched by man was shot into space on October 4 by Soviet Russian scientists. This was a test shot. The satellite carried a minimum of scientific equipment.

Rockets Ride "Piggyback"

The man-made moon (or Earth satellite) to be launched by the United States will be sent up from the Air Force Missile Test Center at Cape Canaveral, Fla. It will be blasted to outer space by a powerful three-stage rocket. This rocket actually will be three rockets in one. The three rockets will ride "piggyback" on one another. Each will fire in turn after the one behind it has burned out.

The *Vanguard* rocket will be 72 feet long and will weigh 22,000 pounds. Its thickest part will be 45 inches in diameter. The moon will be inside the rocket's hollow nose cone.

The rocket will rise slowly at first, then faster and faster. The first stage rocket motor will blast the rocket to an altitude of 35 miles. At this altitude, the first stage will burn out. It will detach itself from the rest of the rocket and drop off into the ocean.

The second stage rocket motor will then ignite. It will thrust the rocket to an altitude of 140 miles, where it will burn out. But it will not immediately separate itself from the third stage. Instead, the second and third stages will coast upward together to a maximum altitude of about 300 miles. Then the spent second stage will fall off and drop into the ocean.

The third stage rocket motor will then be triggered. Its task will be to set the "moon" looping around and around the Earth. Its thrust will kick the "moon" to a final speed of about 18,000 miles per hour, and then fling it into its orbit (path around the Earth). All this will take place in about ten minutes.

Once in its orbit the "moon" will loop the Earth about once every 90 minutes, or 16 times a day. It will probably circle the Earth in an elliptical orbit. Its nearest approach to the Earth will probably be not less than 300 miles. Its farthest arc from the Earth will be not more than 1,500 miles.

What keeps the "moon" from falling back to Earth? It is kept in its orbit by a continuing tug of war between gravity and centrifugal force.

Gravity tugs all bodies toward the center of the Earth. Centrifugal force pulls a moving body outward when it is traveling in a circle. A man-made "moon" speeding at 18,000 miles per hour will have just enough centrifugal force to offset the pull of gravity.

The first four satellites that the U.S. will attempt to launch will be about the size of a softball. These "baby" satellites will be 6.4 inches in diameter and will weigh 3.25 pounds. Each will have a tiny radio that will transmit a special signal. This will enable scientists to track it from the ground.

Six "Adult" Satellites

These first four U.S. satellites will be test shots. Their purpose: to provide U.S. scientists with a preview of the difficulties to be overcome before an "adult" satellite can be hung in space. For "adult" satellites are the real reason behind Project Vanguard.

The first U.S. "adult" satellite will not be launched until early next year. It will be 20 inches in diameter and will weigh 21.5 pounds. Scientists will attempt to hang six of these "adult" satellites in space during IGY.

The Soviet satellite was 22 inches in diameter and weighed 184 pounds. Its speed was about 18,000 miles per hour and its orbit reached a maximum height of about 560 miles above the Earth. It carried two radio transmitters and batteries.

Each U.S. "adult" satellite will be equipped with special instruments. The information gathered by these instruments and transmitted back to Earth will enable scientists to solve some of the many mysteries of space. Here are a few of the things that scientists hope to learn from them:

Official U. S. Navy photo

"Moon's" radio transmitter is small, weighs less than pound minus batteries, but can send messages over 4,000 miles.

1. Measurement of the Sun's Rays

Scientists want to know why long-range radio communications sometimes black out. They suspect that ultra-violet rays and X-rays shot off from the sun may be the cause. Some scientists believe these solar "bullets" also may affect the Earth's weather and climate.

However, scientists know very little about these solar rays. Reason? The Earth's atmosphere acts as a blanket. It absorbs many of the rays before they can reach the surface of the Earth. But a satellite would give scientists a chance to meet and measure solar "bullets" face to face. For a satellite would be high above most of the Earth's atmosphere. One satellite will be equipped with instruments to measure these rays. These measurements may lead to better radio communication and more knowledge about our weather.

2. Measurement of the Earth's Magnetism

Scientists are not certain about the shape of the Earth's magnetic field. They also know very little about magnetic storms—disturbances that cause compass needles to swing wildly, and also disrupt radio and long-distance telephone communications. One of the satellites will be equipped with a device to record the shape of the Earth's magnetic field. Scientists hope it will solve some of the riddles of magnetism.

3. Measurement of Meteorite Activity

Scientists know that about a million tons of meteorites fall on the Earth each year. But they do not know whether meteorites swing through space in scattered showers, or whether space is abuzz with them all the time. One of the satellites will be equipped to record the number of meteors with which it collides. Such information will tell scientists whether they will have to protect the spaceships of tomorrow from fatal blowouts caused by meteors.

4. Measurement of the Air in Space

How dense is the air in outer space? The answer may be found with a satellite that will contain a 30-inch, uninflated balloon. This balloon will automatically be inflated once the satellite begins to loop the Earth. The balloon will be larger and lighter than the satellite. Thus it will have more wind resistance and will slow down quicker. The rate at which the balloon loses speed will enable scientists to calculate the density of the air in outer space.

5. Making Maps More Accurate

Today's maps are from 500 to 1,000 feet off in showing the distances between points on various continents. Now mapmakers plan to use an Earth satellite to make their maps more accurate.

How? By taking the satellite's picture with 12 special telescopic cameras scattered over six continents. Two of these cameras have been set up in the U.S. The others are in Venezuela, Peru, Argentina, the Union of South Africa, Spain, Iran, India, Japan, Australia, and Hawaii.

When these telescopic cameras photograph the satellite, they will pinpoint its position against the background of familiar stars. Mapmakers will then compare photographs made simultaneously by any two cameras. A series of calculations will enable mapmakers to find the distance between the two cameras within a scant 30 feet!

6. Measurement of Cosmic Rays

Cosmic rays travel at high speeds and constantly bombard the Earth. Some are so powerful that they can penetrate several hundred feet of solid rock.

Where do cosmic rays come from? Scientists do not know. One of the satellites will be equipped to measure these rays. Scientists hope to gain enough information to track cosmic rays to their origin.

Tracking the "Moon"

As the satellite whips around the Earth, its path will be tracked by radio, radar, and telescope. The information picked up by the satellite's instruments will be caught on a tiny tape recorder. At set intervals, this information will be relayed by radio back to Earth.

The radio transmitter will be powered by chemical and solar batteries. Chemical batteries, like those in a portable radio, will last about three weeks. Solar batteries convert sunlight into electricity and last indefinitely.

The Earth satellite will be tracked also by special teams of ground observers. These ground observers will

(Continued on page 32)

Official U. S. Navy photo

"Baby satellite," to be used in test shot, will carry only radio transmitter, try out solar batteries for future use.

In the IGY Spotlight

Wide World photo

Dr. Joseph Kaplan

A GUY NAMED JOE

The gigantic job of coordinating all U. S. activities for the IGY is in the hands of a sports fan, hi-fi enthusiast, and physicist named Joe.

He is Dr. Joseph Kaplan—a tall, silver-haired, amiable man of 54. He has a keen sense of humor and a list of scientific achievements that would cover this page if we listed them all.

"Joe was chosen for the chairman's job," says an official of the U. S. Committee for the IGY, "because he has outstanding qualities of leadership, expert knowledge of the geophysical field, and great ability to get along well with other scientists."

Joseph Kaplan was born in Hungary, but his family moved to the U. S. when Joe was eight, settling in Baltimore. He describes his family as having been "woefully poor." His schooling, therefore, was somewhat catch-as-catch-can.

It was common practice in those days to seat a class alphabetically at the start of the school year. As the students proved their worth, they were shifted to the front row. Every time young Joe began one of his intermittent school terms he would vow: "I'm only a *K* today, but next week I'll be up front." He always made it.

In his teens, Joe displayed a special talent for math. This talent aroused the interest of a customer at the grocery store where Joe worked afternoons. The customer often complimented Joe on his speed and accuracy in tallying up purchases. The customer turned out to be a renowned professor of mathematics at Johns Hopkins University. On his urging, Joe tried for—and won—a scholarship at Johns Hopkins.

At first he intended to be a chemical engineer, and at 22 got his B.S. degree in that subject. But as he worked for his master's degree, and then for his doctorate, he found himself drawn more and more to physics.

In 1928, Dr. Kaplan began a long teaching career at the University of California at Los Angeles, eventually becoming chairman of the Physics Department. He later founded the Institute of Geophysics at UCLA and was its first director. He also became UCLA's faculty delegate to the Pacific Coast Conference and helped draw up rules for PCC athletic programs.

During World War II, he served as chief of the Air Weather Service. His wartime services won him decorations from the Navy and Air Force, and the Exceptional Civilian Service award. After the war he resumed his teaching and scientific research.

One of his research specialties has been investigating auroras and airglow (the self-illumination of gases in the upper atmosphere). When he was 26, Dr. Kaplan duplicated airglow in a Princeton laboratory. This won him considerable scientific attention and his first public fame. Needless to say, Dr. Kaplan is particularly interested in IGY investigations of auroras.

Somehow, in his busy schedule, Dr. Kaplan manages to keep up with his interests in sports and hi-fi. In fact, he named one of the planning stages of the IGY in honor of this latter hobby. He dubbed a project the "LPR"—to stand for "long playing rocket."

"BY THE BEARD OF THE PROPHET!"

Director of the U. S. Antarctic program for the IGY is one of the nation's top geologists, Dr. Laurence Gould, 61.

Dr. Gould's knowledge of Antarctica dates back to the 1928-30 expedition of the late Admiral Richard E. Byrd. Dr. Gould, then only 32, was second-in-command of that expedition. But he was always the first to venture out on dangerous assignments for the sake of science.

Once he and two colleagues were lost for days in a mountainous area of Antarctica where they had gone in search of rock specimens. A raging blizzard had destroyed their plane and radio, leaving them completely cut off. The men were finally reached by a search party. Dr. Gould joked about his perilous ordeal. "I was never lost really. I knew where I was all the time."

A native of Lacota, Michigan, Dr. Gould was graduated *magna cum laude* from the University of Michigan, later earning his M.A. and doctorate there, too. (He has also received honorary degrees from seven other colleges.)

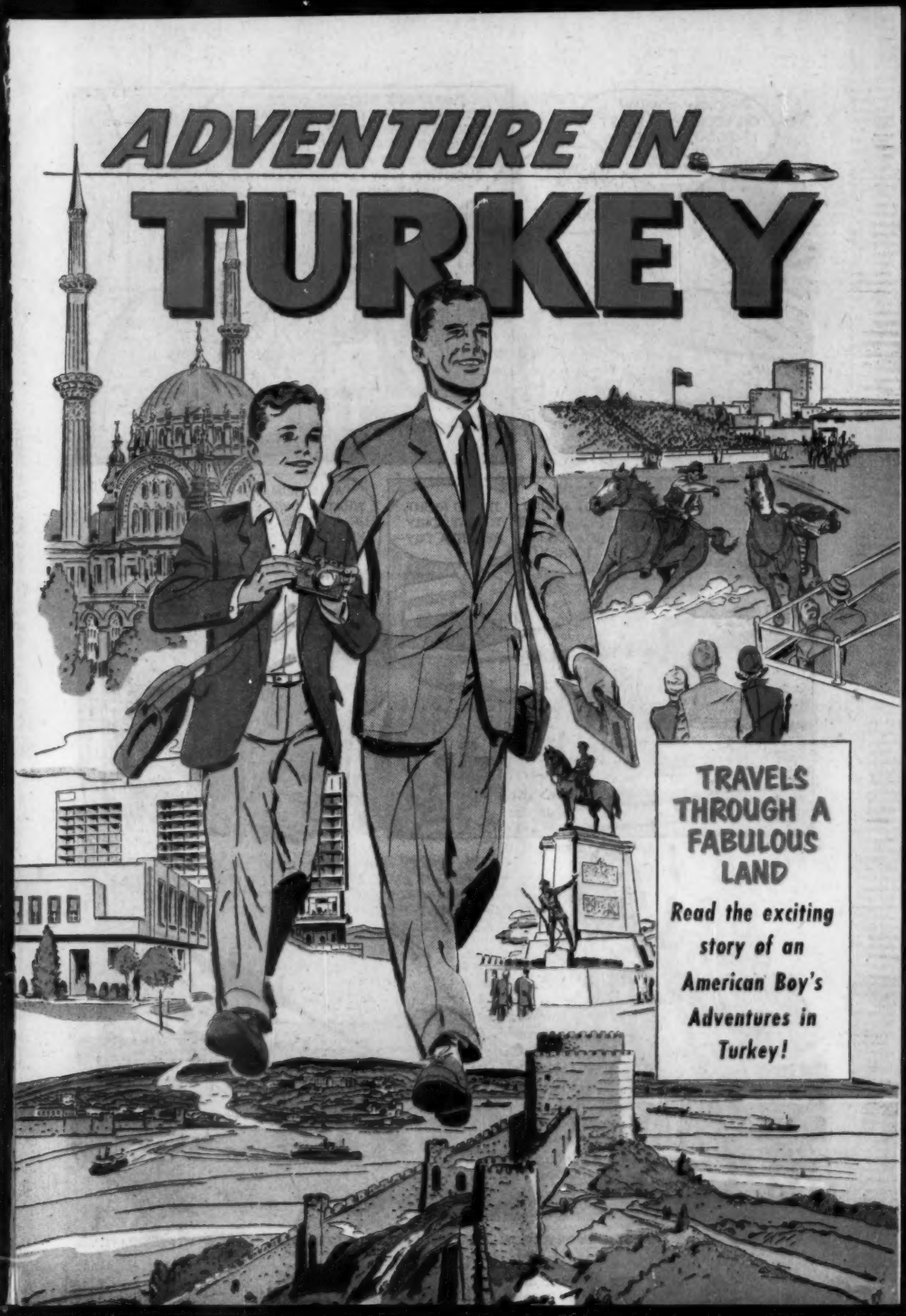
After college, he went on two Arctic and one Antarctic expeditions. In 1932, he settled down at Carleton College (in Northfield, Minnesota) as professor of geology. In 1945 he became Carleton's president.

During World War II, Dr. Gould served as chief of the Arctic Section of Army Air Forces Intelligence. He has written 25 books about the Arctic and Antarctic.

Among his other distinctions, Dr. Gould has a reputation as a man who can "swear better than any other man without using a single cuss word." His associates say that one of his favorite expressions is: "By the beard of the prophet!" This usually precedes a long flow of equally "scholarly" cuss words.

UP photo

Dr. Laurence Gould


ADVENTURE IN
TURKEY
TRAVELS THROUGH A FABULOUS LAND
Read the exciting story of an American Boy's Adventures in Turkey!

OKAY, TOMMY! ON YOUR FEET! START PACKING! WE'RE LEAVING FOR TURKEY!
WH-WHAT, UNCLE MATT, WHAT DID YOU SAY?
I SAID GET PACKED! WE'RE GOING TO TURKEY! MY NEWSPAPER IS SENDING ME TO DO A SERIES OF ARTICLES ON THE NEW TURKEY AND YOU'RE TO GO ALONG AND GET THE YOUTH'S VIEW OF THE COUNTRY. WE LEAVE IN TWO DAYS.
OH BOY! I CAN HARDLY BELIEVE IT!
AND SO, TWO EXCITEMENT AND ACTION-PACKED DAYS LATER, TOMMY HUGHES AND HIS UNCLE MATT BENSON...
GOSH, JUST THINK! IN 22½ HOURS WE'LL BE IN TURKEY!
THAT'S RIGHT, TOMMY! ONLY ABOUT A DAY--
WELL, TOMMY, WHAT SAY WE BONE UP A LITTLE ON TURKISH HISTORY, SO WE'LL KNOW WHAT'S GOING ON.
GOOD IDEA, UNCLE MATT!
"...TURKEY IS A VERY ANCIENT LAND, BUT IT WASN'T UNTIL THE COMING OF THE SELJUK TURKS, ORIGINALLY FROM NORTH OF THE CAUCASUS THAT THE COUNTRY WAS FIRST UNIFIED..."

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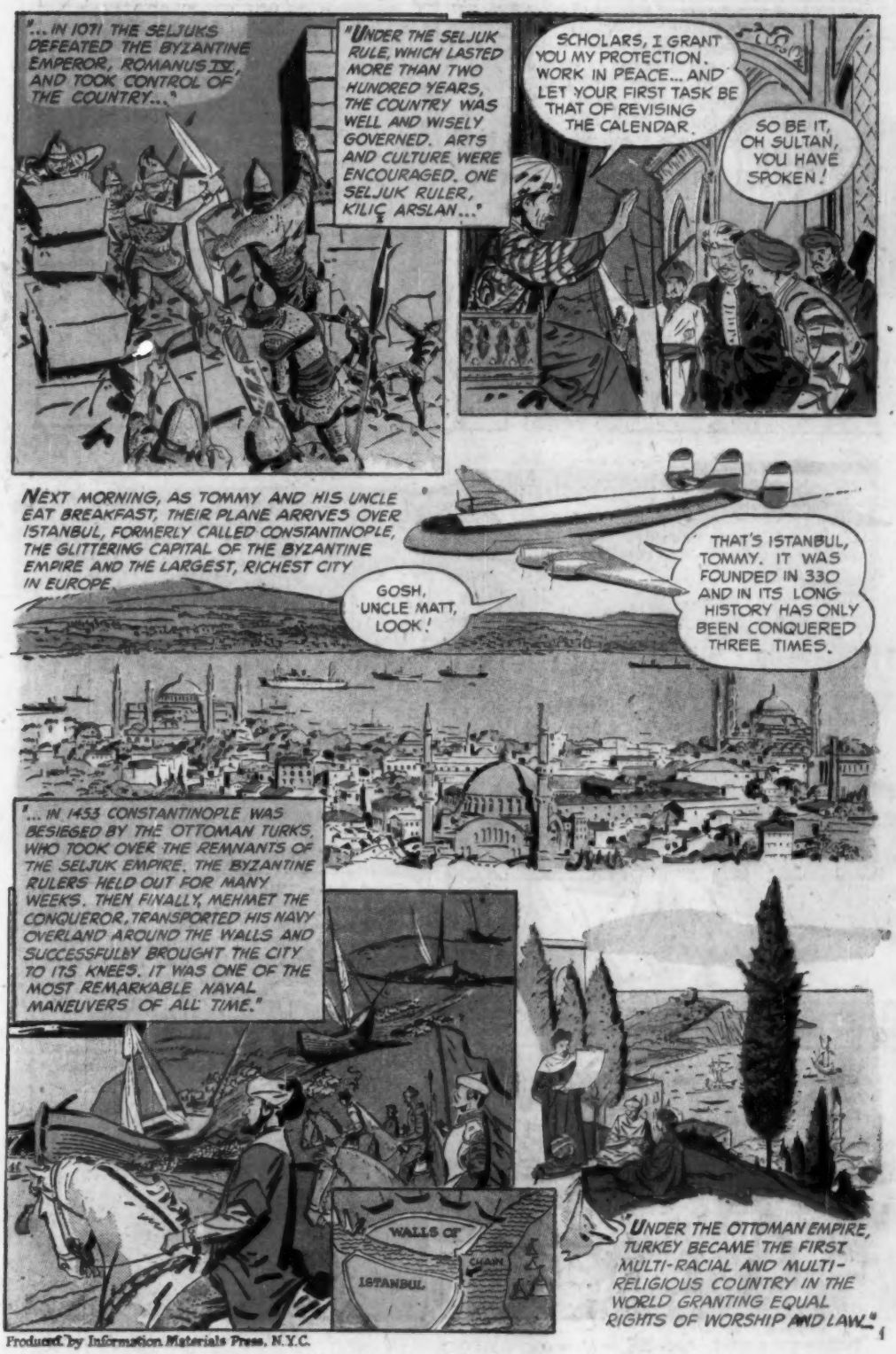
"... IN 1071 THE SELJUKS DEFEATED THE BYZANTINE EMPEROR, ROMANUS IV, AND TOOK CONTROL OF THE COUNTRY..."
"UNDER THE SELJUK RULE, WHICH LASTED MORE THAN TWO HUNDRED YEARS, THE COUNTRY WAS WELL AND WISELY GOVERNED. ARTS AND CULTURE WERE ENCOURAGED. ONE SELJUK RULER, KILIÇ ARSLAN..."
SCHOLARS, I GRANT YOU MY PROTECTION. WORK IN PEACE... AND LET YOUR FIRST TASK BE THAT OF REVISING THE CALENDAR.
SO BE IT, OH SULTAN, YOU HAVE SPOKEN!
NEXT MORNING, AS TOMMY AND HIS UNCLE EAT BREAKFAST, THEIR PLANE ARRIVES OVER ISTANBUL, FORMERLY CALLED CONSTANTINOPLE, THE GLITTERING CAPITAL OF THE BYZANTINE EMPIRE AND THE LARGEST, RICHEST CITY IN EUROPE.
GOSH, UNCLE MATT, LOOK!
THAT'S ISTANBUL, TOMMY. IT WAS FOUNDED IN 330 AND IN ITS LONG HISTORY HAS ONLY BEEN CONQUERED THREE TIMES.
"... IN 1453 CONSTANTINOPLE WAS BESIEGED BY THE OTTOMAN TURKS, WHO TOOK OVER THE REMNANTS OF THE SELJUK EMPIRE. THE BYZANTINE RULERS HELD OUT FOR MANY WEEKS. THEN FINALLY, MEHMET THE CONQUEROR, TRANSPORTED HIS NAVY OVERLAND AROUND THE WALLS AND SUCCESSFULLY BROUGHT THE CITY TO ITS KNEES. IT WAS ONE OF THE MOST REMARKABLE NAVAL MANEUVERS OF ALL TIME."
WALLS OF
CHAIN
ISTANBUL
"UNDER THE OTTOMAN EMPIRE, TURKEY BECAME THE FIRST MULTI-RACIAL AND MULTI-RELIGIOUS COUNTRY IN THE WORLD GRANTING EQUAL RIGHTS OF WORSHIP AND LAW."

Produced by Information Materials Press, N.Y.C.

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TOMMY AND HIS UNCLE CHANGE PLANES IN ISTANBUL, FOR THEIR TOUR IS TO BEGIN IN ANKARA, CAPITAL OF TURKEY.
UNCLE MATT, I REMEMBER LEARNING IN SCHOOL ABOUT A FAMOUS TURKISH PATRIOT NAMED ATATURK. TELL ME MORE ABOUT HIM.
MUSTAFA KEMAL ATATURK, TOMMY, WAS THE GEORGE WASHINGTON OF TURKEY. HE LED THE REVOLT AGAINST THE OLD REGIME JUST AFTER WORLD WAR I, AND MADE TURKEY THE DEMOCRATIC REPUBLIC IT IS TODAY.
GUMRUK CUSTOMS
BELIEVE IT OR NOT, TOMMY, INSPIRED BY ATATURK'S LEADERSHIP, THE MODERNIZATION AND WESTERNIZATION OF TURKEY WAS COMPLETED IN LITTLE MORE THAN THIRTY YEARS. TODAY EVERY TURK IS BORN FREE AND ENJOYS EVERY DEMOCRATIC FREEDOM JUST AS WE DO AT HOME.
GEE, MR. ATATURK MUST HAVE BEEN QUITE A GUY.
TC-
"HE GAVE BOTH MEN AND WOMEN EQUAL RIGHTS AND ATATURK ALSO INTRODUCED COMPULSORY EDUCATION THROUGHOUT THE WHOLE COUNTRY. IT WAS HE WHO SAID, 'ONE PERSON WITH LOVE OF LEARNING IS BETTER THAN NINETY-NINE WITH NO LEARNING'."
LANDING IN ANKARA, MATT BENSON MEETS AN OLD FRIEND FROM THE TURKISH BRIGADE IN KOREA...
DEMIR, IT'S GREAT TO SEE YOU! BUT HOW DID YOU KNOW...
YOUR NEWSPAPER NOTIFIED MINE, AND I'M TO SHOW YOU AROUND ANKARA.
LOOK AT ALL THE PLANES, UNCLE MATT.
IT'S A BUSY COUNTRY, SON. TOMMY, SHAKE HANDS WITH DEMIR DEVRIM, AN OLD FRIEND AND FELLOW NEWSPAPERMAN.
GLAD TO KNOW YOU, TOMMY. AND NOW, COME ALONG, BOTH OF YOU. I'M TAKING YOU TO ONE OF THE MOST FAMOUS RESTAURANTS IN THE WORLD— KARPIÇ'S, KNOWN TO DIPLOMATS AND BUSINESSMEN FROM EVERYWHERE.
HOW DO YOU DO, SIR!

AT KARPIÇ'S, THE THREE LUNCH ON THAT FAMOUS TURKISH DISH, SHISH KEBAB AND RICE, FOLLOWED BY DELICIOUS PEACHES, GRAPES AND FIGS.

YOU KNOW, MATT, THIS TOWN WAS JUST A SLEEPY VILLAGE ONLY THIRTY YEARS AGO, BEFORE ATATURK MADE IT OUR CAPITAL. NOW IT'S ONE OF THE MOST MODERN CITIES IN THE WORLD.

AND BY THE WAY, TOMMY, TURKEY IS GOVERNED BY A GRAND NATIONAL ASSEMBLY LIKE THE BRITISH PARLIAMENT... IT MEETS HERE IN ANKARA.

AFTER KARPIÇ'S, THE TRIO DECIDE TO SEE THE TURKISH GOVERNMENT IN ACTION. SHORT MINUTES LATER...

THAT'S THE PARLIAMENT BUILDING UP AHEAD, TOMMY! WE'LL GO IN AND WATCH THE NATIONAL ASSEMBLY AT WORK

"THIS IS THE NATIONAL ASSEMBLY. HERE THE PEOPLE'S REPRESENTATIVES MAKE THE LAWS GOVERNING THE TURKISH DEMOCRACY. IN THE NEW TURKEY, EVERY TURK IS BORN FREE AND LIVES A FREE AND INDEPENDENT LIFE, AND THE LIMITS OF HIS FREEDOM ARE ONLY THOSE CONSTITUTED BY THE FREEDOM AND RIGHTS OF OTHERS. THE LEGEND 'HAKIMIYET MILLETINDIR' OVER THE SPEAKERS ROSTRUM MEANS 'SOVEREIGNTY BELONGS TO THE PEOPLE'!"

HAKIMIYET MILLETINDIR

YOUR FRIENDS IN SCHOOL MIGHT BE INTERESTED TO KNOW THAT TURKEY IS A VERY ACTIVE MEMBER OF BOTH THE **UNITED NATIONS** AND **NATO**, TOMMY.

AT THE **U.N.** ROAD BUILDING CENTER, AT ANKARA UNIVERSITY, MEN FROM OTHER COUNTRIES LEARN TO BUILD ROADS LIKE THESE, TOMMY, IN THEIR OWN LANDS!

GEE, THAT'S WONDERFUL! AND TO THINK I NEVER EVEN HEARD OF IT BEFORE.

LOTS OF FACTS ABOUT TURKEY'S PART IN THE **U.N.** AND **NATO** HAVE NEVER BEEN SUFFICIENTLY PUBLICIZED, TOMMY. DID YOU KNOW THAT TURKEY'S CONTRIBUTIONS TO **NATO** ARE EXCEEDED ONLY BY THOSE OF THE UNITED STATES, GREAT BRITAIN, FRANCE AND CANADA?

NO, I DIDN'T, DEMIR, BUT I SURE KNOW ABOUT THE HEROISM OF TURKISH SOLDIERS IN KOREA!

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"IT'S VERY WELL KNOWN, TOMMY! IN FACT, TURKEY WAS THE FIRST ALLY TO JOIN THE UNITED STATES IN FIGHTING AGAINST COMMUNIST AGGRESSION. ONE OF OUR SOLDIERS, PRIVATE HACI ALTINER, A MACHINE GUNNER, WAS WOUNDED 14 TIMES AT KUNU-RI, KOREA, IN 1950. WHEN HE COULD FINALLY FIGHT NO LONGER HE WALKED 10 MILES TO AN AID STATION. HE WAS HONORED IN 1951 BY A PARADE IN NEW YORK, A 20 CITY TOUR OF THE U.S., AND WAS RECEIVED BY YOUR PRESIDENT..."

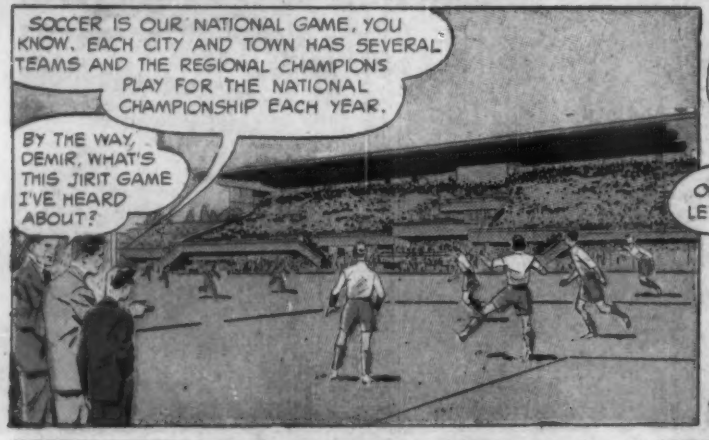
HE MUST HAVE BEEN A BRAVE MAN ALL RIGHT!

TURKISH SOLDIERS HAVE BEEN NOTED FOR THEIR COURAGE AND RESOURCEFULNESS FOR OVER A THOUSAND YEARS, TOMMY! REMEMBER THE TURKISH WAR OF INDEPENDENCE?

WE'RE HEADING FOR ANKARA'S SPORTS STADIUM, TOMMY! THERE'S A SOCCER GAME GOING ON RIGHT NOW!

SOCCER IS OUR NATIONAL GAME, YOU KNOW. EACH CITY AND TOWN HAS SEVERAL TEAMS AND THE REGIONAL CHAMPIONS PLAY FOR THE NATIONAL CHAMPIONSHIP EACH YEAR.

BY THE WAY, DEMIR, WHAT'S THIS JIRIT GAME I'VE HEARD ABOUT?



OH THAT! IT'S A VERY EXCITING GAME TO SAY THE LEAST. THERE'S A FIELD NEAR HERE AND THERE MAY BE A GAME THIS AFTERNOON. WANT TO SEE IT?

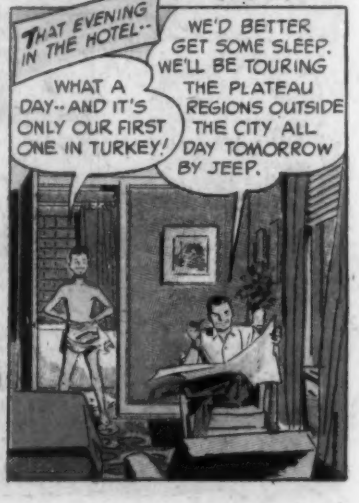
OH BOY! LET'S GO!

AND, A LITTLE WHILE LATER, TOMMY, MATT AND DEMIR SEE THE CLASSICAL BATTLE TRAINING GAME OF "JIRIT" PLAYED. THE OBJECT IS TO KNOCK YOUR OPPONENT OFF HIS HORSE WITH YOUR STAFF. TWO TEAMS OF EQUAL NUMBER PLAY, WITH THE BEST FACING THE BEST, ETC. EXCELLENT HORSEMANSHIP AND RIDING SKILL IS A VITAL REQUIREMENT FOR THIS THRILLING GAME...

THAT EVENING IN THE HOTEL--

WHAT A DAY--AND IT'S ONLY OUR FIRST ONE IN TURKEY!

WE'D BETTER GET SOME SLEEP. WE'LL BE TOURING THE PLATEAU REGIONS OUTSIDE THE CITY ALL DAY TOMORROW BY JEEP.



EARLY NEXT MORNING, TOMMY AND HIS UNCLE MATT START TO GATHER MATERIAL FOR HIS STORIES. THEY VISIT A SHEPHERD AND HIS FLOCK OF ANGORA GOATS, KNOWN THROUGHOUT THE WORLD FOR THEIR SPECIAL BRAND OF WOOL CALLED MOHAIR.

WE HAVE ABOUT FIVE MILLION ANGORA GOATS IN TURKEY. THEY DIFFER FROM OTHER GOATS IN THE LENGTH OF THEIR FLEECE WHICH RUNS UP TO EIGHT INCHES LONG.

THEY SURE ARE FINE LOOKING GOATS.

AND IT IS ALSO VERY SMOOTH LIKE VELVET, AND VERY WHITE.

WHAT'S NEXT, UNCLE MATT?

WE'RE HEADING FOR WHEAT PRODUCING COUNTRY. UNLIKE MANY OTHER COUNTRIES IN EUROPE AND ASIA, TURKISH WHEAT IS HARVESTED BY THE MOST MODERN COMBINES YOU'LL SEE ANYWHERE!

SEE WHAT I MEAN, TOMMY?

WHY THOSE ARE ALL MADE IN AMERICA, AREN'T THEY? IT LOOKS JUST LIKE BACK HOME IN KANSAS.

THERE ARE 40,000 TRACTORS IN TURKEY, TOO, MOSTLY AMERICAN-MADE. BUT NEW CORPORATIONS BUILT ON BOTH TURKISH AND AMERICAN CAPITAL ARE BEING FORMED. A FIRM CALLED "MINNEAPOLIS-MOLINE TURK TRAKTOR FABRIKASI" WILL SOON BE TURNING OUT ONE HUNDRED TRACTORS A DAY.

AFTER A FAST, HARD DRIVE TO THE WEST, TOMMY AND MATT BENSON REACH THE MEERSCHAUM COUNTRY AROUND THE TOWN OF ESKISEHIR, AND--

JUST WHAT IS MEER--MEERSCHAUM ANYWAY?

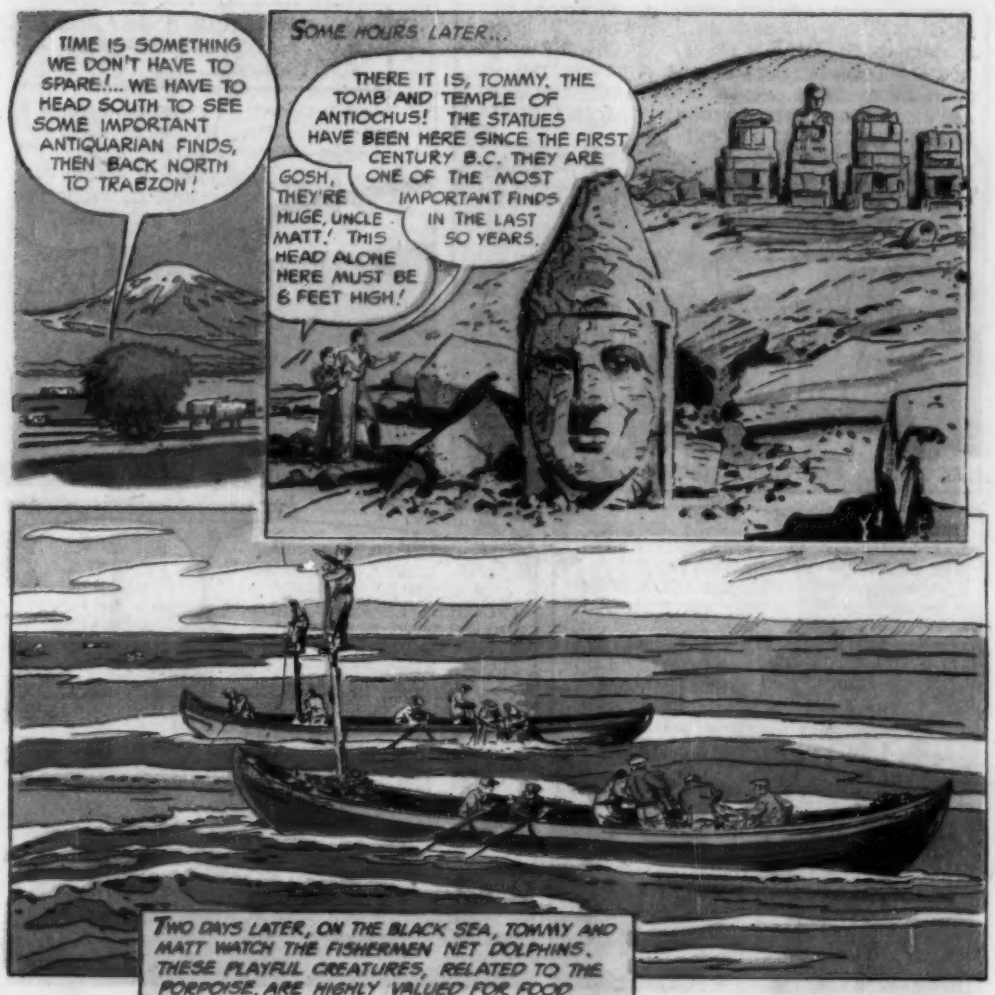
IT'S A SOFT, WHITE MINERAL WHEN MINED, TOMMY, BUT IT DRIES AND HARDENS IN THE SUN TILL IT LOOKS LIKE IVORY.

OUR CRAFTSMEN ARE FAMOUS THROUGHOUT THE WORLD FOR THE DELICACY WITH WHICH THEY FASHION THINGS LIKE ARTIFICIAL FLOWERS, COMPACTS AND BROOCHES FROM MEERSCHAUM.

MEERSCHAUM PIPES ARE COLLECTORS' ITEMS. FOR INSTANCE, THIS ONE WOULD BE WORTH ABOUT FIFTY DOLLARS IN THE U.S. HERE YOU PAY ABOUT EIGHT.

AT THOSE PRICES I GUESS I OUGHT TO BUY ONE FOR MY DAD.

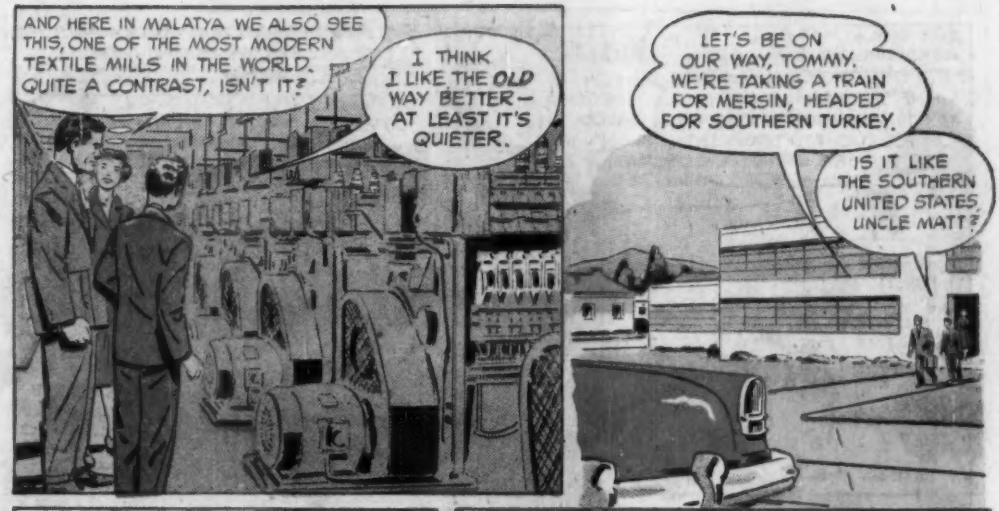
OUR TRAVELERS RETURN TO ANKARA COMING IN ON ATATURK BOULEVARD, AND...
YOU'VE BEEN A GREAT HELP, DEMIR. WE'LL CERTAINLY MISS YOU ON THE REST OF OUR TOUR. WE'RE FLYING EAST TO KARS ON THE RUSSIAN BORDER IN THE MORNING TO VISIT THE CATTLE COUNTRY.
AFTER A FLIGHT OF THREE HOURS TOMMY AND MATT BENSON ARRIVE IN TURKEY'S MAIN CATTLE RAISING COUNTRY ON THE EXTREME NORTHEAST BORDER NEAR RUSSIA.
GOOD-LOOKING CATTLE, UNCLE MATT - BUT WHERE ARE THE COWBOYS?
THEY AREN'T NECESSARY HERE. THE TURKS ARE VERY FINE HORSEMEN BUT THE AVERAGE "CATTLE RANCH" IS ONLY ABOUT 180 ACRES, SO THERE'S NO SUCH THING AS A TURKISH COWBOY. BUT LET'S MOVE ON. WE HAVE LOTS OF TERRITORY TO COVER.
TRAVELING THROUGH THE RUGGED MOUNTAINS OF NORTHEAST TURKEY, TOMMY AND HIS UNCLE SEE BOOMING COPPER MINES...
...AND LARGE LOGGING OPERATIONS...
THERE IT IS, TOMMY, MOUNT ARARAT! WANT TO CLIMB TO THE TOP AND LOOK FOR THE REMAINS OF NOAH'S ARK?
I'D BE GAME IF WE HAD TIME. BUT EVEN SO, WAIT TILL THE GANG HEARS I ACTUALLY SAW MOUNT ARARAT, WHERE THE ARK IS BELIEVED TO HAVE LANDED.


TIME IS SOMETHING WE DON'T HAVE TO SPARE!... WE HAVE TO HEAD SOUTH TO SEE SOME IMPORTANT ANTIQUARIAN FINDS, THEN BACK NORTH TO TRABZON!
SOME HOURS LATER...
THERE IT IS, TOMMY. THE TOMB AND TEMPLE OF ANTIOCHUS! THE STATUES HAVE BEEN HERE SINCE THE FIRST CENTURY B.C. THEY ARE ONE OF THE MOST IMPORTANT FINDS IN THE LAST 50 YEARS.
GOSH, THEY'RE HUGE, UNCLE MATT! THIS HEAD ALONE HERE MUST BE 6 FEET HIGH!
TWO DAYS LATER, ON THE BLACK SEA, TOMMY AND MATT WATCH THE FISHERMEN NET DOLPHINS. THESE PLAYFUL CREATURES, RELATED TO THE PORPOISE, ARE HIGHLY VALUED FOR FOOD.

LATER THAT DAY—
THESE ARE HAZELNUT TREES, TOMMY. TURKEY IS THE LARGEST EXPORTER OF BOTH HAZELNUTS AND PISTACHIOS IN THE WORLD.
MMM! LET'S STOP AND GET SOME.

SAY, THESE HAZELNUTS ARE DELICIOUS, UNCLE MATT.
LOOK, THAT'S TOBACCO AS FAR AS THE EYE CAN SEE. TURKISH TOBACCO IS ESPECIALLY VALUED FOR ITS SMALL LEAF, LIGHT COLOR AND ITS FLAVOR AND AROMA.

-- AND THAT'S WHY AMERICAN BUYERS LIKE THESE BUY SOME THIRTY MILLION DOLLARS WORTH OF IT EVERY YEAR. MOST AMERICAN CIGARETTES CONTAIN FROM FOUR TO EIGHT PERCENT OF TURKISH TOBACCO.
THIRTY MILLION DOLLARS WORTH FOR THE UNITED STATES ALONE! BOY!
IN SAMSUN THE TOBACCO CAPITAL...
LEAVING SAMSUN, TOMMY AND MATT BENSON BOARD A TRAIN FOR MALATYA...
WHAT WILL WE SEE IN MALATYA, UNCLE MATT?
OH, RUG WEAVING DONE BY HAND AND MODERN TEXTILE MILLS -- ALL KINDS OF INTERESTING THINGS!
THIS LOOKS LIKE PICTURES I'VE SEEN OF EUROPEAN TRAINS.
TURKEY IS STILL EXTENDING AND IMPROVING ITS RAILROADS, TOMMY. THEY HAVE ABOUT 4800 MILES OF EXISTING RAILWAYS AND THEY EXPECT TO ADD ANOTHER 1400 MILES WITHIN TEN YEARS.
SEVERAL HOURS LATER
WE'RE PASSING NEAR SIVAS, TOMMY. THIS IS IRON ORE COUNTRY. TURKEY PRODUCES NEARLY A HALF-MILLION TONS A YEAR. IT'S ALSO ONE OF THE FOUR MAJOR PRODUCERS OF CHROME ORE IN THE WORLD.
SEEMS TO ME THAT I REMEMBER THAT THEY GET ASBESTOS HERE, TOO.
THAT'S RIGHT, THEY DO... AND ALSO COAL, MANGANESE EMERY, ANTIMONY, LEAD AND OIL. TURKEY IS QUITE RICH IN MINERAL RESOURCES. WELL, I'D BETTER START CHECKING ON WHERE WE'LL GO IN MALATYA. WE'LL BE THERE SOON.
AFTER THEY ARRIVE IN MALATYA...
THIS GIRL IS WEAVING A CARPET JUST AS HER ANCESTORS HAVE DONE FOR CENTURIES, TOMMY. THE WORLD'S FINEST CARPETS ARE STILL MADE BY HAND. AND DO YOU KNOW THAT EACH CARPET IS GIVEN A SORT OF SHAVE AND SHAMPOO BEFORE IT IS SENT TO MARKET?
I'D HATE TO TRY IT ON ONE OF MOTHER'S CARPETS.


AND HERE IN MALATYA WE ALSO SEE THIS, ONE OF THE MOST MODERN TEXTILE MILLS IN THE WORLD. QUITE A CONTRAST, ISN'T IT?
I THINK I LIKE THE OLD WAY BETTER— AT LEAST IT'S QUIETER.
LET'S BE ON OUR WAY, TOMMY. WE'RE TAKING A TRAIN FOR MERSIN, HEADED FOR SOUTHERN TURKEY.
IS IT LIKE THE SOUTHERN UNITED STATES, UNCLE MATT?

THE WEARY TRAVELERS DECIDE TO TAKE A DAY'S VACATION IN MERSIN, AND MATT BENSON PRESENTS A LETTER OF INTRODUCTION FROM HIS FRIEND DEMIR TO A BUSINESSMAN OF MERSIN...

I'M HAPPY TO MEET YOU BOTH. THIS IS MY WIFE, BEHICE AND MY SONS AYDIN AND CEMAL. WE'RE ON OUR WAY TO THE BEACH. WILL YOU JOIN US?
THANK YOU, MR. TEMEL. WE'D BE DELIGHTED.

WHEE! LOOK AT AYDIN AND CEMAL WRESTLE.
WRESTLING IS A FAVORITE SPORT WITH US-- BOYS START LEARNING IT AS SOON AS THEY WALK. WE TURKS ARE THE OLYMPIC WRESTLING CHAMPIONS, YOU KNOW.
GET THEM TO SHOW YOU A FEW TRICKS TO TRY ON YOUR FRIENDS, TOMMY.

AND THAT NIGHT AFTER DINNER –
TOMMY, THIS IS THE SURPRISE I PROMISED YOU! IT'S KARAGOZ, AN OLD TURKISH SHADOW PLAY. THE BRIGHTLY COLORED CAMEL SKIN PUPPETS ARE MANIPULATED FROM BEHIND THE LIGHTED TRANSLUCENT SCREEN BY ONE OF THE FEW REMAINING MASTERS OF THIS ART.
IT'S LIKE A PUNCH AND JUDY SHOW BUT EVEN BETTER.
BUT EVEN THE MOST PLEASANT OF DAYS HAS TO END AT LAST, AND SO --
THANK YOU, MR. AND MRS. TEMEL. YOU'VE BEEN MOST KIND.
IT WAS OUR PLEASURE, MR. BENSON.
BYE, CEMAL AND AYDIN. THANKS FOR THE WRESTLING LESSONS.
GOOD-BYE, TOMMY – DON'T FORGET TO WRITE US.
GEE, THEY'RE NICE PEOPLE, AREN'T THEY?
WONDERFUL PEOPLE, TOMMY. BUT IT'S A GOOD THING WE'RE HEADED FOR BED, BECAUSE WE HAVE TO GET UP AT DAWN TOMORROW TO TAKE A PLANE TO ANKARA, WHERE WE CATCH THE TRAIN FOR ZONGULDAK.
AND NEXT DAY –
THIS IS THE BLACK SEA PORT OF ZONGULDAK, TOMMY. HEART OF THE COAL PRODUCING REGION. TURKEY IS FORTUNATE TO HAVE COAL BECAUSE MOST OF HER NEIGHBORS ARE HAMPERED BY THE LACK OF IT
LOOK AT ALL THE FREIGHTERS. CEMAL TOLD ME THAT THE TURKISH MERCHANT MARINE FLEET IS GROWING LARGER ALL THE TIME, TOO.
DRIVING THROUGH THE COUNTRY AROUND ZONGULDAK, TOMMY AND HIS UNCLE SEE COAL MINES AND COKE OVENS ---
LIKE THE UNITED STATES, TURKEY HAS BOTH IRON ORE AND THE COAL TO PROCESS IT. WHILE PRODUCTION IS STILL SMALL COMPARED TO OURS, IT IS INCREASING EVERY YEAR.
-- AND VISIT THE IRON AND STEEL WORKS AT KARABUK.

--AND THEN IT'S ON AGAIN, SOUTHWEST TOWARD KUTAHYA THE CERAMICS CENTER...

WE'RE BACK ON THE GREAT CENTRAL PLATEAU OF TURKEY AGAIN, TOMMY. THIS IS FARM COUNTRY. SUGAR BEETS ARE AN IMPORTANT CROP HERE AND SO ARE POTATOES AND APPLES AND--

STOP, UNCLE MATT, YOU'RE MAKING ME HUNGRY AGAIN.

AND A WHILE LATER IN KUTAHYA...

GEE, UNCLE MATT, LOOK AT THE POTTER!

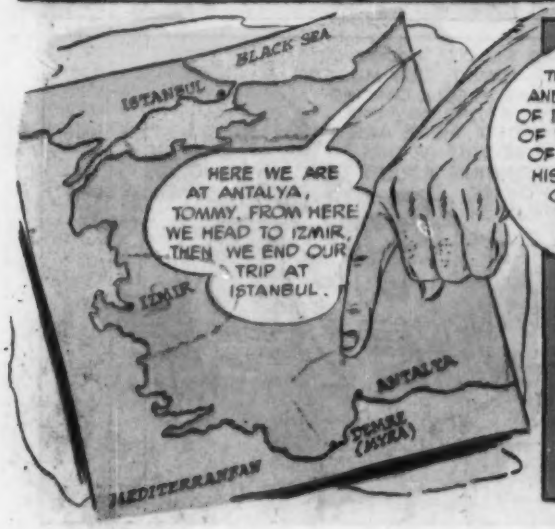
YES, TOMMY, HE'S TURNING OUT FINE POTTERY ON A FOOT-WHEEL JUST AS IT HAS BEEN DONE FOR AGES!

ALSO, IN KUTAHYA, THEY WATCH CRAFTSMEN CREATE THEIR WORLD RENOWNED CERAMICS--

THE COLORS IN THESE HAND-PAINTED TILES AND PLATES AND PITCHERS NEVER FADE, TOMMY. ONLY THESE CRAFTSMEN KNOW THE SECRET OF MAKING THESE DYES.

THEY'RE BEAUTIFUL! I'M GOING TO TAKE SOME HOME TO MY MOTHER!

LEAVING KUTAHYA THE PAIR HEAD SOUTH FOR ANTALYA ON THE MEDITERRANEAN. ON THE WAY BENSON TELLS TOMMY THAT AT KONYA, TO THE EAST, IS WHERE THE LEGEND OF ALADDIN AND HIS WONDERFUL MAGIC LAMP ORIGINATED.



HERE WE ARE AT ANTALYA, TOMMY. FROM HERE WE HEAD TO IZMIR, THEN WE END OUR TRIP AT ISTANBUL.

AND DID YOU KNOW THAT ST. NICHOLAS, THE ORIGINAL SANTA CLAUS, ACTUALLY LIVED AND DIED NOT FAR FROM HERE, IN THE TOWN OF DEMRE, THEN CALLED MYRA. HE WAS BISHOP OF THE TOWN, AND ACTUALLY PERFORMED MANY OF THE GENEROUS ACTS THAT GAVE RISE TO HIS LEGEND. YOU CAN STILL SEE THE RUINS OF THE CHURCH OF ST. NICHOLAS WHERE HE WAS BURIED AFTER HIS DEATH IN 342.

"IT WAS ON A STILL DECEMBER NIGHT, REMINDING US OF OUR OWN CHRISTMAS EVE, THAT ONE OF NICHOLAS' EARLIEST ACTS OF GENEROSITY TOOK PLACE. ANONYMOUSLY HE TOSSED A BAG OF GOLD INTO THE HOME OF AN IMPOVERISHED NOBLEMAN. IT SAVED THE NOBLEMAN'S DAUGHTERS FROM POSSIBLE SLAVERY AND PROVIDED A DOWRY FOR THEIR MARRIAGE..."
YOU MEAN THAT SANTA CLAUS WAS ACTUALLY A LIVING MAN? I THOUGHT HE WAS ONLY A MYTH!
HE'S A LITTLE BIT OF BOTH BY NOW! BUT HERE WE ARE. A CHARTERED PLANE WILL TAKE US TO IZMIR, LAND OF OLIVES, FIGS AND RAISINS, AND OF THE GREAT INTERNATIONAL FAIR!
A FEW HOURS LATER...
THERE YOU ARE, TOMMY-- OLIVE ORCHARDS. NOT ONLY ARE OLIVES DELICIOUS BUT THEY MAKE WONDERFUL SALAD AND COOKING OIL, AND VERY HIGH GRADE TOILET SOAP.
AT THE IZMIR INTERNATIONAL FAIR, TOMMY AND MATT BENSON SEE THE BLENDING OF THE OLD AND NEW TURKEY.
THOSE ARE THE OLD TRADITIONAL COSTUMES, TOMMY. THEY MUST BE HERE TO GIVE A FOLK DANCING EXHIBITION. BY THE WAY, DID YOU KNOW THAT THERE ARE OVER 3600 BOOTHS AT THIS FAIR REPRESENTING TURKEY AND SIXTEEN OTHER COUNTRIES?
KÜLTÜRPARK
ENTERNASYONAL FU

"IT WOULD BE INTERESTING TO WATCH THE GIRLS WORKING IN THE VINEYARDS WHERE THEY RAISE SULTANA GRAPES. SOMETIMES THE YOUNGSTERS HELP OUT IN HARVESTING THE FIG CROP TOO."
THERE IS SO MUCH TO SEE THAT I WISH WE COULD SPEND MORE TIME HERE BUT WE MUST CATCH THE PLANE FOR ISTANBUL.
WE SURE ARE SEEING A LOT OF WONDERFUL THINGS, UNCLE MATT!
ON THE WAY TO ISTANBUL THE PLANE PASSES OVER BURSA..
THIS WAS THE FIRST CAPITAL OF THE OLD OTTOMAN EMPIRE, TOMMY. NOW IT'S THE CAPITAL OF THE TURKISH SILK INDUSTRY AND IT'S ALSO NOTED FOR SPAS AND HOT BATHS AND SKIING RESORTS.
AND TO THINK THEY HAVE WINTER SPORTS HERE JUST A FEW HOURS FROM THE AEGEAN SEA!
..AND SOON IN ISTANBUL'S AGE OLD STREETS...
TURKISH COPPERWARE IS UNMATCHED FOR ITS BEAUTY AND PERFECTION. NO MACHINE COULD MATCH THIS CRAFTSMANSHIP.
THAT'S A BEAUTY HE'S WORKING ON!
TOMMY AND MATT BENSON START THEIR TOUR OF ISTANBUL ON THE ISTIKLAL CADDESI, THE MODERN MAIN STREET OF THE CITY.
LET'S GO DOWN TO THE GALATA BRIDGE, TOMMY. THE BEST WAY IS TO TAKE THE SUBWAY.
DID YOU SAY SUBWAY?
SURE AND IT'S CABLE PULLED. BET YOU NEVER SAW THAT BEFORE.
HEY! THAT'S A KEEN IDEA.

THE GALATA BRIDGE IS WORLD FAMOUS, TOMMY. YOU CAN SEE WHY. LOOK AT THE VIEW. LOOK AT THE DELICATE ARCHITECTURE IN THOSE DOMES AND MINARETS IN THE OLD CITY ACROSS THE GOLDEN HORN. BESIDES--
IT'S FROM HERE THAT ALL THE FERRIES AND SMALLER CRAFT WILL TAKE OFF ALONG THE WONDERFUL WATERWAYS AROUND ISTANBUL FOR THE MANY TOWNS AND RESORTS LINING THE BOSPHORUS. THEY ALSO GO TO THE LOVELY HOLIDAY RESORTS ON THE PRINCES' ISLES!
AND FROM THE GALATA BRIDGE, TOMMY AND MATT JOURNEY TO SEE ONE OF ISTANBUL'S MOST INSPIRING SIGHTS...
IT'S THE BLUE MOSQUE, TOMMY!
IT'S TERRIFIC! BUT IT ISN'T BLUE, UNCLE MATT.
SEE, IT IS BLUE INSIDE! IT WAS BUILT BY SULTAN AHMED IN THE 17½ CENTURY AND RANKS AS ONE OF THE WORLD'S MOST BEAUTIFUL BUILDINGS.
I THINK THIS MUST BE THE MOST BEAUTIFUL OF ALL!
AND THAT EVENING... ON A FERRY BOAT ON THE BOSPHORUS, WHICH SEPARATES EUROPE FROM ASIA...
OUR LAST NIGHT IN TURKEY, TOMMY! TOMORROW WE HEAD FOR HOME. I'LL NEVER FORGET THIS VIEW OF THE BOSPHORUS AT NIGHT.
ME NEITHER, UNCLE MATT! IMAGINE, THE WORLD'S SHORTEST INTER-CONTINENTAL TRIP! FIVE MINUTES AND FIVE CENTS FROM ASIA TO EUROPE! THIS HAS BEEN A WONDERFUL TRIP AND TURKEY IS A WONDERFUL COUNTRY!

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How You Can Participate in the IGY

Want to take part in an IGY project in your community?

See which field interests you the most and get busy

TEEN-AGE volunteers—"scientists of tomorrow"—are playing an important role in making the IGY a success. Many scientific studies depend upon the enthusiastic support of teen-agers from coast to coast.

What are these programs? How can you, as a teen-ager, participate in the IGY?

There are many opportunities for you to "pitch in" and help in such fields of study as auroral observations, recording the results of solar disturbances on short-wave radio reception, and round-the-clock observations of the Earth satellites.

The following programs have been suggested to *Scholastic Magazines* by the U. S. National Committee for the IGY. These are programs where the teen-ager may make his greatest contribution:

▸ **Operation Moonwatch:** More than 100 teams of volunteer astronomers—among them many teen-agers—have been organized in locations all over our country. Volunteers will keep watch on our Earth satellite when it will be projected into space. Working together, with simple and inexpensive telescopes, "Moonwatchers" will be able to cover the entire sky. Each Moonwatch telescopic station will record the exact time and position of the tiny satellite as it passes through the observers' field of vision.

Special training for the U. S. Moonwatch program is well on its way. IGY officials do not plan to set up any new stations. But young astronomers are welcome to join teams already organized. For the name and address of Moonwatch team leaders in your home town, write to Leon Campbell, Jr., Supervisor of Station Operations, Smithsonian Institution Astrophysical Laboratory, 60 Garden Street, Cambridge 38, Massachusetts.

▸ **Project Moonbeam:** Radio amateur groups around the world are tuning in on IGY Earth satellites. Especially designed Minitrack Mark II (or similar) stations will enable radio "hams" to track the course and position of man-made moons from signals sent out by their tiny transmitters.

Advanced teen-age ham radio operators are invited to join together in constructing special stations needed to pick up and record the course and position of the Earth satellites as they circle the globe. This program, called Project Moonbeam, is directed by the U. S. Naval Research Laboratory.

Teen-age hams who wish to set up these valuable "listening posts" will be given detailed plans and technical assistance on request. For full information on how hams can participate in this exciting phase of the IGY, write to Dr. R. L. Easton, U. S. Naval Reserve Laboratory, Washington, D.C.

Qualified ham operators may also make a valuable contribution to IGY research by observing short-wave radio conditions during periods of solar disturbance. For full information, write to Mason Southworth, Supervisor of ARRL-IGY Propagation Research Project, The American Radio Relay League, West Hartford 7, Connecticut.

▸ **Auroral Program:** Sharp-eyed "nightwatchers" are scanning the skies, carefully noting the time, place, size, and shape of aurora borealis—Northern Lights—displays. The IGY Auroral Data Center, in charge of this program, is relying heavily on untrained but dependable volunteer observers for "blanket observation." These volunteers are bridging the gaps in the reports of the comparatively few professional meteorologists, who do not have the opportunity to carry on continuous and detailed observations.

Dr. C. W. Gartlein, chief of the Auroral Program, has told *Scholastic Magazines* that he already has more than enough volunteer observers in the eastern half of the United States. But teen-age "nightwatchers" west of Chicago are still needed. An observer's IGY *Handbook for Reporting Auroras* will be sent to you if you write to Dr. C. W. Gartlein, IGY Auroral Data Center, Rockefeller Hall, Cornell University, Ithaca, New York.

International News photo

"Moonwatch" team at Pittsburgh, Pa., is hard at work trying to spot satellite launched by Soviet scientists. Low-power scopes are lined up and focused on a sighting pole in manner that enables them to cover a 90-degree field of vision.

Letters to the Editor

The Missile Race

Dear Editor:

Each of the separate branches of the Armed Forces seem bent on developing their own missiles for specific uses (*Oct. 11 issue*). I feel, however, that we should first develop the missiles and then concentrate on modification for specific duties.

If the experts would get together and work on a single missile program, the defenses of the U. S. would be bolstered and we would get better missiles.

Dennis McConnell
Chambersburg (Pa.) Senior H. S.

The French Touch—Encore

Dear Editor:

In your Sept. 20 issue you asked for "denials" of Andrew McKenzie's letter saying French girls were more polite than American girls. But I feel it would not be fair to let Andrew be bombarded with denials when some of his charges are quite true.

I am not saying that all American girls are rude, self-centered, and selfish —but a great many of them are! . . .

I am sure that girls are the same the world over. Andrew, in his travels, was probably lucky to date some of the more polite French girls. Yet while he was home he wasn't quite so lucky.

If he would look around his own home ground, he'd find that American girls *can* be as polite as European girls —if not more so.

Verna Nelson
Allen High School
Asheville, N. C.

Dear Editor:

Why doesn't Andrew McKenzie stay in France if the girls there are "so interested" in him. Besides being unpatriotic, he has poor taste. . . .

Mary Lally
Convent of the Sacred Heart
Lake Forest, Ill.

Vacations ARE Necessary

Dear Editor:

I wish Frank Maloney could have been in our classroom to hear the reactions to his letter (*Sept. 20 issue*).

What is Frank reading that leaves him so bored? I have never had a real vacation because I've had to work to help pay my expenses, but I've traveled far through books.

Has Frank used his opportunities to the full? Eagle Scouts work hours to gain swimming and hiking badges.

Perhaps if Frank shared his gifts with less fortunate boys he'd get a lot more enjoyment out of life. Then three months' vacation wouldn't be enough!

Mildred Thibodeaux
Sacred Heart H. S.
Lake Charles, La.

Year-Round School?

Dear Editor:

Since I get bored during the summer, I think it would be nice if we could have school for three semesters a year, with a two-week or three-week vacation between semesters. What do other readers think of this?

James G. Harris
Jordan H. S.
Columbus, Ga.

Dear Editor:

My mother and father were discussing how crowded schools are. They think we ought to go to school six months and then another group go for six months.

I asked them: "How could we learn anything in this time?" They answered that if we went only six months, the classes would be smaller and the teachers would have more time for each student.

Then I asked: "What would teachers think about teaching all year?" They replied that most teachers could use extra money and would be glad to earn it in this way rather than getting other part-time jobs.

I finally agreed that this sounded pretty good. I would like to hear what other students think about it.

Jacquie Robertson
Miami, Okla.

Going Steady—Pro and Con

Dear Editor:

In my opinion "going steady" is the result of lack of confidence in many teen-agers. A person usually "goes steady" because he or she wants prestige, fears competition, feels incapable of meeting new people, or wants the assurance of a date at any needed time.

A little bit more "open season" is a challenge that would develop personality a great deal—and be fun. . . .

Heidi Maher
Winnetka, Ill.

Dear Editor:

Going steady is for people who think a lot of each other, who enjoy each other's company a great deal, and who have no desire to date anyone else.

However, going steady is like having hamburgers for lunch every day. You never find out how delicious ham sandwiches are.

Brenda Sisk
Madisonville (Ky.) H. S.

Dear Editor:

I don't think there is anything wrong with "going steady" if you have dated other boys for three or four years, and then know what you want.

But I don't think you should "go steady" unless you intend to get married.

Raylene Miller
Elmwood, Nebr.

There is a difference between "going steady" and "going *steadily*." Many of my friends, including myself, date one particular "favorite" steadily but continue to date other boys, too.

Patricia Ryan
Wilmette, Ill.

One for One?

Dear Editor:

Up to last year each student of our class received his own copy of *Senior Scholastic*. This year we're sharing copies with two other classes, and the copies must remain in class. This way, we only get a glimpse of your wonderful magazine and I don't like it at all.

I enjoy your interesting articles, and my parents find it informative, too.

Reinhild Wehnert
Arlington, Minn.

▶ (We agree. It's difficult to tell the players without your own score card. *Editors*)

Boy dates Girl

By GAY HEAD

A Scholastic Magazines cartoon

"For a Romance languages major, Al, you're certainly a disappointment."

"HOW?"

No, this isn't a lesson on the slang of the pre-Mayflower Osage or Comanche. It isn't about a Cockney who just had his foot stepped on. It isn't even a guide to redecorating your room or building your own hi-fi set. It's just the question which always follows the answer to "What?"

Many of you know what ought to be done in prickly situations, but you're treed when it comes to the M.O. (modus operandi—method of operation to you non-private eyes). Love may not be blind, but its rocky road is often dimly lighted.

Q. I was dating a boy I liked very much when a new boy in school started liking me. He told everyone I was his girl, which wasn't true. The boy I liked stopped asking me out rather than date someone else's girl. I still prefer my old boy friend. How can I get him to ask me out again?

A. If the popular myth is that you're Sid's girl, and you're not, the time to take weed-killer to rumors is now. You're the victim of an entangling fantasy which you had no part in creating, and which probably isn't entirely Sid's fault either. He probably told someone he liked you and that someone told someone else. Before long, you two might as well have been engaged. The rumor probably reached your old boy friend, Hugh, in its advanced stages. Rather than be hurt any further, he simply retreated from the front lines.

Without saying unkind things about Sid, and as openly as if you were giving someone the correct time, tell your friends and others who ask that you're not Sid's girl. Be friendly to Sid, but not flirtatious. Date him if you enjoy his company, but date others, too. Hugh will see at least that you're unattached.

As for retrieving Hugh, favor him with just a little more attention than you pay the other boys, so he'll know he still has a chance if he wants it. If he doesn't want it, you won't be making a fool of yourself by showering him with smiles and glances. Give him the opportunity to date you again, but don't bully him into it.

Q. Girls seem to expect boys to neck at the conclusion of a date and I'd rather not. How can I prevent awkward situations from arising?

A. Some girls may seem to expect it, but most girls definitely don't. In fact, they strongly object to finishing just any date in an embrace.

If it's obvious all during the date that you're having fun, nothing more than a smile and a sincere "Thanks. I've enjoyed it" is needed to put the finishing touches on the evening. A kiss might add the only sour note. If it's just as obvious that you two haven't gotten along at all, no amount of smooching is going to make the date a success.

Then, too, you may have your expectations confused. Perhaps a boy once told you he always necks with all his dates. Without questioning what kind of fellow he was, or the reputations of the girls he dated, you assumed all dating was like that. It certainly is not, and if you date the right kind of girl, you'll find out. You won't have three seconds of that awkward moment.

Q. My parents let me see the boy I go steady with only three nights a week. How can I convince them I should see him at least four nights?

A. How many nights are there in a week? Seven. How many of these are school nights? Five. If you see Eric three nights every week you've only four left for studying, sleep and your family. Eric is already getting the lion's share, and although he's an adorable lion, you must remember that your schoolwork, health, and family need plenty of attention, too.

True, if Eric is someone very special, the four nights he isn't with you seem very lonely. Aren't there other times you can see him—in school, right after school, during the day on weekends? Dating every Friday, Saturday and Tuesday night might be fun, but it sounds strictly scheduled, doesn't it? See if you and Eric can work out a variety of date times when neither of you would be doing something else. This way, three nights a week will be plenty, and your other responsibilities won't suffer.

Q. I like a freshman girl whose parents won't let her go out with me or any other senior boys. How can I help her parents understand there's nothing wrong with us?

A. Sylvia's parents' feelings about senior boys are understandable. Their "little girl" is fresh out of grade school and new to dating. They want her to grow up gradually, not be exposed to senior social sophistication before she's ready. You may not be the dangerous man-about-town they think all senior boys are, but you have to show them this. Nor do you have to carry the ball for the whole senior class. In this game your personal score is the only one that counts. If you can make Sylvia's parents think of you as "that nice Clark boy," instead of "that typical senior," you'll have a clear field.

Naturally you can't do this just by seeing Sylvia in school, even if you're sure she goes home and paints golden word pictures of you to her parents. They have to be personally convinced on their home ground. So why not drop in on the family this weekend and rake leaves with Sylvia's father, move furniture for her mother, or just give her brother advice on building his model airplane? Get to know Sylvia's family and maybe you'll get a chance to know Sylvia better.

If you have a question which you'd like to have answered in "Boy dates Girl," send it to: Gay Head, *Senior Scholastic*, 33 West 42nd St., New York 36, N. Y. Questions of greatest interest will be discussed in future columns.

WHAT DO YOU KNOW?

A quiz on facts, ideas, and words in this issue.

I. ABOUT IGY

On the line to the left of each of the following statements, write the number preceding the word or phrase which best completes the sentence.

__a. The number of countries participating in the International Geophysical Year is
1. four
2. twenty-one
3. sixty-four
4. one hundred and five

__b. The IGY was scheduled for 1957-1958 because
1. the time had been selected during the last geophysical year
2. the participating governments agreed on the dates
3. the need for intense scientific investigation could not be postponed any longer
4. every 11 years the sun grows particularly active

__c. The scientists keeping a close watch on the sun are known as
1. physicists 3. astronomers
2. demographers 4. alchemists

__d. It is expected that the man-made satellites circling the Earth will be able to feed back to scientists on the ground information about all of the following, *except*
1. cosmic rays
2. ocean currents
3. electrons
4. the earth's magnetism

__e. The country which launched the first man-made satellite is
1. Great Britain 3. United States
2. Russia 4. France

__f. It is estimated the man-made satellite circled the Earth every
1. 96 minutes 3. 7 days
2. 24 hours 4. 29½ days

__g. As the man-made satellite whips around the Earth, its path will be tracked by all of the following, *except*
1. microscopes 3. radio
2. telescopes 4. radar

__h. Estimates of the lifetime of a man-made satellite are that it will last
1. 24 hours
2. 24 days
3. 24 years
4. from a few weeks to many years

__i. The problem of feeding the ever-increasing world population may be solved in part by
1. overcoming the Earth's magnetism
2. eliminating sun spots
3. the ocean's fertility
4. gathering of meteoric dust

II. WORDS TO KNOW

A. On the line to the left of each of the terms in *Column A*, write the number preceding the correct description in *Column B*.

Column A

__a. atmosphere
__b. aurora
__c. cosmos
__d. Geiger counter
__e. geophysics
__f. glacier
__g. meteorology
__h. orbit
__i. seismograph
__j. solar

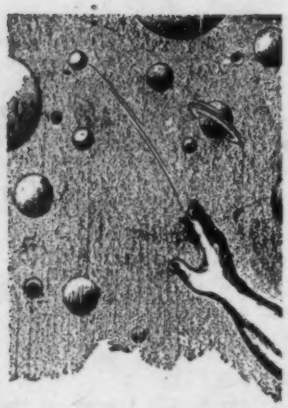
Column B

1. the highest region of the atmosphere
2. an electronic device for detecting radioactivity
3. having to do with the sun
4. the nearly circular path of the Earth around the sun
5. deals with study of the Earth
6. a field of ice
7. the envelope of air surrounding the Earth
8. a device which measures the motions of earthquakes
9. streamers of differently colored light, visible only at night
10. the universe thought of as an orderly system
11. the study of weather

B. On the line to the left of each of the terms in *Column A*, write the number preceding the correct description in *Column B*.

Column A

__a. algae
__b. centrifugal
__c. corona
__d. crevasse
__e. fault
__f. gravity
__g. jet stream
__h. meteor



From The Washington Post and Times-Herald
"Big League Ball"

__i. radioactivity
__j. satellite

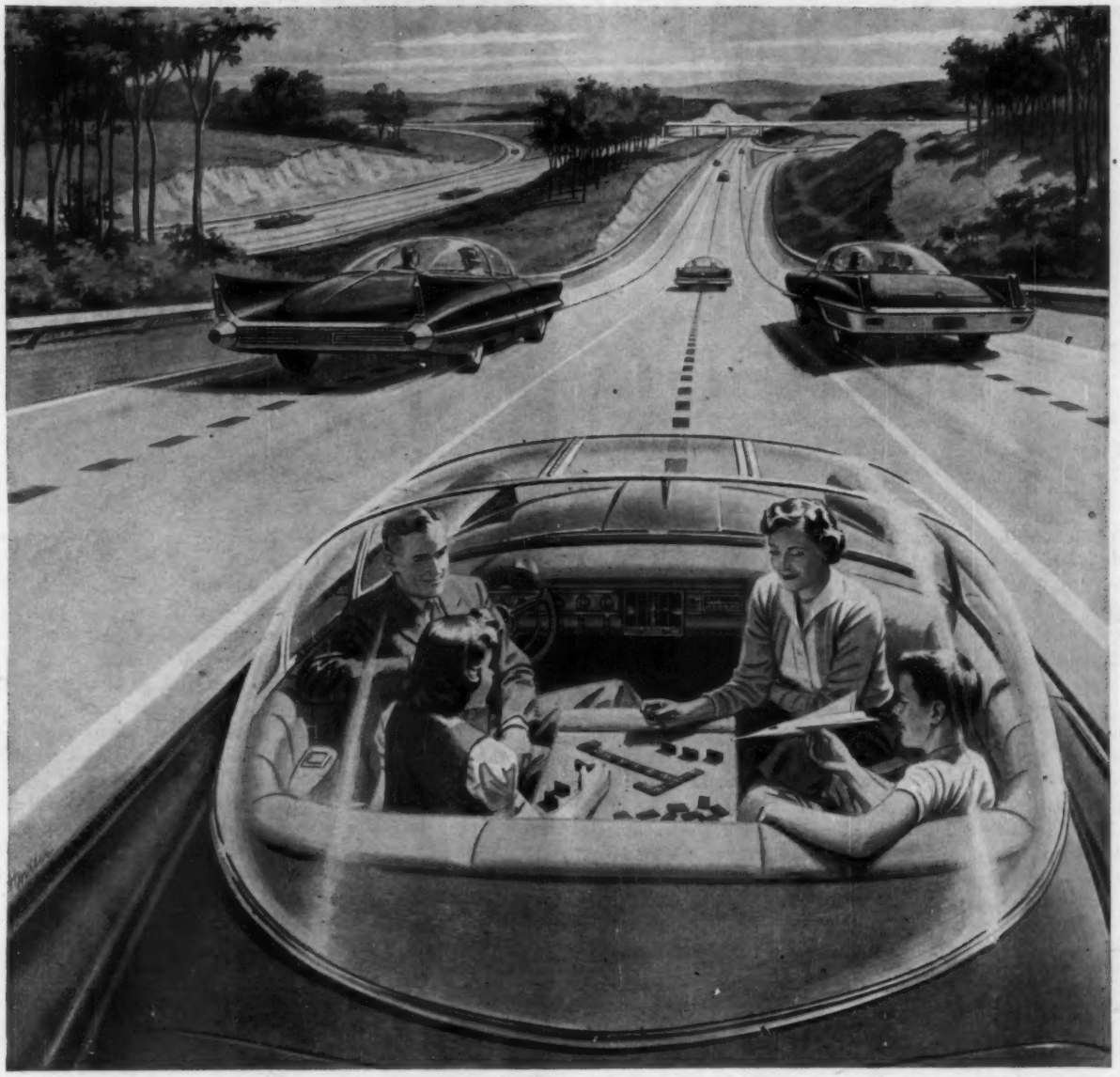
Column B

1. The process by which a substance spontaneously changes to another substance, at the same time releasing energy.
2. A heavenly body which burns as it passes through the Earth's atmosphere.
3. The force which pulls a body toward the Earth.
4. A breach in a glacier.
5. Plants that grow in the sea.
6. A lesser body which revolves around a primary body.
7. A band of high-velocity wind that blows at very high altitudes.
8. A bright white light which surrounds the sun during an eclipse.
9. A force which tends to make a whirling object fly outward from the center.
10. A fracture in the Earth's crust.
11. The portion of the upper atmosphere that reflects radio waves back to Earth.

III. INTERPRETING A CARTOON

Study the cartoon on this page. On the line to the left of each of the following statements, place a "T" if it is *true*, an "F" if it is *false*, and "NS" if there is *not sufficient* information in the cartoon on which to base a conclusion.

__a. Man is capable of launching a satellite.
__b. In a short time man will be traveling to the moon and back.
__c. Man has little or no knowledge of the planets.
__d. Saturn is one of the planets drawn in the cartoon.
__e. The cartoon appeared first in *The Washington Post and Times-Herald*.



ELECTRICITY MAY BE THE DRIVER. One day your car may speed along an electric super-highway, its speed and steering automatically controlled by electronic devices embedded in the road. Highways will be made safe—by electricity! No traffic jams . . . no collisions . . . no driver fatigue.

Power Companies Build for Your New Electric Living

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You will need and have much more electricity than you have today. Right now America's more than 400 independent electric light and power companies are planning and building to have twice as much electricity for you by 1967.

The same experience, imagination and enterprise that electrified the nation in a single lifetime are at work shaping your electric future. That's why in the years to come, as in the past, you will benefit *most* when you are served by independent companies like the ones bringing you this message—*America's Independent Electric Light and Power Companies**.

*Company names on request through this magazine

Lovely at First Sight

Better Vision Institute

THE idea that you can't be pretty if you wear glasses is a pretty old-fashioned one. And the very thought that you'll be labeled a brain-buster or a wallflower if you wear specs is just as obsolete. Today, there are so many pixie and prankish shapes and such a variety of colors from which to choose that glasses are actually considered a glamorous new accessory to flatter your face.

So if your eye doctor has prescribed specs for you as an aid to better sight in reading, movie-going or seeing in general, don't be glum about it. Buy glasses that really suit you. Not only will you get a good look at the world, but you'll also get many an admiring look from others.

The fact is that glasses can glamorize your face, provided they're selected according to a few basic rules. If your nose is long, a frame with a low nose-bridge will make it seem shorter; if it's snub, a high bridge will lengthen it. Your frames should be at least as wide as your face is at the cheekbones, or they're apt to give it a pinched look. If your

face is small with delicate features, dainty, narrow frames are most becoming. For a full, round face or prominent features, large specs make for better balance.

Remember that repetition of a line emphasizes the original line, so you shouldn't choose a lens shape which will repeat an undesirable facial contour. For instance, the girl with a round face will look better in angular shaped frames than in rounded ones. Harlequin frames, with their angular contour, cut down on the full-moon look.

For the face that's too long and narrow, glasses with a straight-top frame, which cut across the temples, minimize the length of the face.

For the face that's square with a high, broad forehead and heavy jaw line, glasses with a top frame that's slightly rounded and which come to an angular point at the bottom, are good.

For the face that's broad in the temples and narrow in the jaw, glasses which are broad at the nose piece and move out to a sharp angle at the outside corners of the eyes are recommended.

The color of the frames is important, too. It should harmonize with the complexion, eyes, and hair, says the Better Vision Institute. In choosing new frames, hold them against your cheek and note the effect upon your skin tones. Then consider the color of your eyes and hair. A blonde with light eyes looks attractive in deep blue, blue green, gold, and dark tortoise shell. A blonde with brown or hazel eyes can wear medium green, coral, Chinese red, gold, and light amber tones of tortoise shell to good advantage. For a brunette with light eyes, deep blue, blue green, silver, white, gold, and light pink tortoise shell are recommended. A brown- or dark brown-eyed brunette is set off by yellow, tomato red, green, gold, and light or flesh-colored tortoise shell. A redhead of any shade should select green, coral, cocoa, gold, or dark to medium tones of tortoise shell.

Another point to consider when buying glasses is the eyebrows. The top of the frame should cover them partially, but not completely or you'll look as if you had no brows at all. If your eyebrows are scant or undistinguished, frames with accented upper lines may suit you especially well.

Since glasses are an accessory, be conservative in choosing jewelry and hats. Steer clear of headgear that makes the specs stand out too prominently. For example, a hat with a brim close to the eyes should be avoided.

Keep your hairdo simple, too. Wear a soft, rather than too severe hair arrangement. The hair should cover the earpiece of the glasses. If you wear a page boy, a pony tail, or a feather cut, make sure it's neat and well combed.

Keep make-up toned down. If you fix your hair and make-up without your glasses on, take a last look with specs on for a final check-up.

Remember to have eyesight examinations at regular intervals because eyes change and spectacle lenses should be changed to accommodate them. Good seeing and good looking!

Enter the **Scholastic-Ansco** *Picture Contest*
Over $1,350 in Cash Prizes

FIRST-PRIZE WINNER, STILL LIFE, 1957
Won by Ira Stein, age 16, a student at the Southside Senior High School, Rockville Centre, N.Y. Film: *Ansco Ultra-Speed Pan.*

If you ever had dreams of winning a picture contest, the Scholastic-Ansco is one you don't want to miss. It is planned especially for you; all students from grades 7 through 12 are eligible and you have a chance of winning any of several big cash prizes. For instance, this contest offers not one, but *15 first prizes* (for 15 picture categories) worth $50, or $100 each if you use Ansco film. In addition there are *15 second prizes* ($25), and *15 third prizes* ($15). Second and third prize money is also doubled for Ansco film entries.

This contest ends March 15, 1958. You may submit pictures for several different subject classifications, so start taking pictures now. Your Rules Booklet gives all the information and tells you about the divisions you are eligible to enter.

·····HOW TO ENTER·····

Contest is open to all students in grades 7 through 12 regularly enrolled in public, private, or parochial schools in the United States and its possessions. Get your official Rules Booklet and entry blank from your Ansco dealer, or write to: Scholastic-Ansco Photography Awards, 33 West 42nd Street, New York 36, N. Y.

Reminder: All prize money is doubled if you load your camera with Ansco film: All-Weather Pan for black-and-white shots, and regular or Super Anscochrome for color slides.

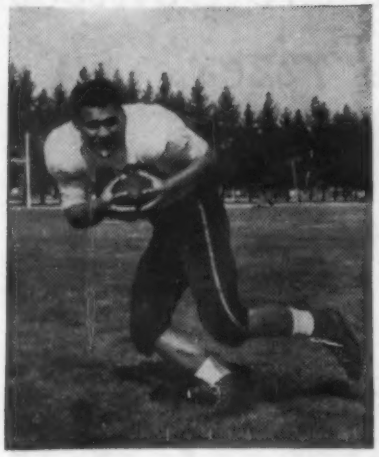
Anscochrome: Famous Anscochrome is the film that makes color live. Three times more sensitive to color than traditional films, it renders color faithfully as the eye sees it with subtle color rendition that no other film can approach. The premium film at standard price.

Super Anscochrome: Here's the film with lots of reserve "power" and almost unbelievable speed that gets pictures that formerly were impossible in color. With a film speed of 100, it's actually faster than standard black-and-white films. This film is a "natural" for dramatic and unusual shots—blinding-action or dim-light situations—which you might consider shooting as contest entries.

Caution: Super Anscochrome is not recommended for simple unadjustable cameras. Its unprecedented speed would result in seriously overexposed transparencies. Use regular Anscochrome, instead.

Ansco

The House of Photographic Firsts, Binghamton, New York, A Division of General Aniline & Film Corporation



Aloha, Joe!

ASK THE MAN in the street what Hawaii's famous for, and he'll probably say pineapples, swimmers, or the hula-hula. But not if he lives in Corvallis, home of Oregon State College.

In this lively little corner of the Beaver State, Hawaii is cherished as a football hot-house. Dozens of rare Hawaiian "peaches" find their way across the Pacific and end up in Orange and Black uniforms.

Latest and greatest of the Hawaiian imports is big Joe Francis, 196-pound mass of muscle. A driving runner, sharp passer, good punter, and savage tackler, big Joe last season led Oregon State to its first Pacific Coast Conference crown in 15 years. And, thanks chiefly to Joe, O.S.C. is favored to repeat this year.

The hula-hipped Hawaiian halfback is all athlete. At Kamehameha High in Honolulu, Joe played three great years of football, basketball, and baseball. As a freshman at O.S.C., he played a little basketball and won the school heavyweight boxing title the first time he put on the gloves.

But in football, he was lost. The Beavers were using the T formation at the time, and had Joe playing quarterback. That was like trying to make a ballet dancer out of Yogi Berra. Joe simply couldn't do the job.

Just What the Doc Ordered

The following year, Doc Prothro took over as head coach, and the T formation went the way of the buffalo and red flannel underwear. Doc was a new-fashioned single-wing coach who knew a great tailback when he saw one.

He saw one in Joe Francis. Joe had the size, and he could run, pass, and punt. In short, Joe and the single wing went together like Boston and beans.

The big soph tailback was a smash hit right from the opening game. He ran wild against Brigham Young, then helped upset favored Stanford, 10-0. He intercepted three passes and fired a 56-yarder himself for a touchdown. With Joe leading the way, Oregon State went on to finish second in the conference—the highest O.S.C. finish since 1946.

The husky Hawaiian was a marked man in 1956, but he left twice as many marks on the opponents. He ran the ball 548 yards and passed it for 507 yards more. His completion average was a gaudy 61 per cent.

Joe's great all-around play landed the Beavers in the Rose Bowl for the first time in history. (Oregon State played a Rose Bowl Game in 1942, beating Duke, 20-16. But because of war-time restrictions, the game was played in Durham, N. C.)

Though Iowa trounced Oregon State 35-19 in the Bowl, Francis turned in a show that had the fans clapping their hands raw. In defeat, the Beaver junior reeled off 73 yards rushing and 130 yards passing. He connected on 10 of 12 passes—one of which traveled 35 yards for a touchdown—and ran the Hawkeyes dizzy off tackle and around end.

Joe's total gain of 203 yards was the seventh best mark made in the 54-year history of the game. It was also the best made by a member of the losing side since Washington's George Wilson rambled 211 yards in a losing cause against Alabama in 1926.

Now in his senior year, Joe is getting the recognition he deserved but didn't get the last two seasons. Red Sanders, coach of all those great U.C.L.A. teams the past ten years, says, "Francis is better than any tailback I ever had at U.C.L.A."

Joe's coach, Doc Prothro, calls him one of the most underrated players in the country. "Francis," he claims, "is good enough to make anybody's All-American team."

The big boy from the land of sunshine and pineapples is a great favorite among the Beaver players. "He's a player's player," says end Bob DeGrant. "You can always count on him under pressure." That's about as nice a compliment as an athlete can get.

Like all Hawaiians, Joe loves his native music. His other favorites include: *movies*, Marlon Brando and Barbara Stanwyck; *singer*: Tony Bennett; *band*: Earl Bostic; and *school subject*: anatomy.

His big ambition is to become a coach. He ought to make a real good one.

SHORT SHOTS

▸ Before officially kissing the baseball season good-by, I'd like to pitch up my big league all-star team: *first*, Stan Musial, St. Louis; *second*, Red Schoendienst, Milwaukee; *third*, Ed Mathews, Milwaukee; *shortstop*, Ernie Banks, Chicago Cubs; *outfield*, Ted Williams, Boston; Mickey Mantle, Yankees; Willie Mays, Giants; and Hank Aaron, Milwaukee; *catcher*, Yogi Berra, Yankees; *pitchers*, Jim Bunning, Detroit; and Warren Spahn, Milwaukee.

As you'll note, I picked four outfielders. I found it impossible to drop either Williams, Mantle, Aaron, or Mays. From the standpoint of batting averages, you'd have to pass up Aaron. He batted 11 points less than Mays, 43 points less than Mantle, and 66 points less than Williams. BUT (with capital letters) "Hammerin' Hank" led both major leagues in home runs (with 44) and runs batted in (with 132).

My second team would include: *first*, Gil Hodges, Brooklyn; *second*, Nellie Fox, Chicago White Sox; *third*, Frank Malzone, Boston; *shortstop*, Gil McDougald, Yankees; *outfield*, Minnie Minoso, White Sox; Roy Sievers, Washington; and Frank Robinson, Cincinnati; *catcher*, Gus Triandos, Baltimore; *pitchers*, Billy Pierce, White Sox; and Jack Sanford, Philadelphia.

▸ The three football players found time lying heavy on their hands. "What'll we do tonight?" asked one. There followed some heavyweight thinking. Finally the All-American tackle said:

"I've got an idea. Let's toss a coin. If it's heads, we'll crash the fresh-soph dance. If it's tails, we'll go to the movies. And if it stands on edge, we'll study."

—HERMAN L. MASIN, *Sports Editor*

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- Metal Working
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IGY Words
You Need to Know

absolute zero—459.4° below Fahrenheit; the complete absence of molecular movement.

algae—Plants that grow in the sea, such as seaweed.

atmosphere—The envelope of air surrounding the Earth.

aurora—The *aurora borealis* is a lighting phenomenon known as "Northern Lights"; it consists of streamers of differently colored light, visible only at night, in the high northern latitudes. The *aurora australis*, or "Southern Lights," is visible only in high southern latitudes.

axis—An imaginary line through the Earth's poles, around which the Earth rotates.

centrifugal—Flying or proceeding from the center; a force which tends to make a whirling object fly outward from the center.

concave—Material with a curved surface shaped so that it is thicker at the edge than through the center. (*See convex.*)

convex—Material with a curved surface shaped so that it is thicker through the center than at the edge. (*See concave.*)

corona—A bright white light which surrounds the sun for a few seconds when the sun is totally eclipsed by the moon.

cosmos—The universe conceived as an orderly and harmonious system.

crevasse—A deep fissure or breach in a glacier or snowy area.

degree—A position or space on the Earth or in the heavens is measured by degrees of latitude or longitude. A degree of latitude is equal to about 70 miles.

eclipse—Darkening of the sun or moon by its passing into the shadow of the Earth.

electromagnetic—Capable of picking up iron objects by means of electricity.

elliptical—Shaped in the form of a near-circle.

Fahrenheit—A thermometer scale on which the freezing point of water is marked 32° and the boiling point 212°.

fault—A fracture in the Earth's crust.

frequency—The number of radio waves, sound waves, or light waves per second.

Geiger counter—An electronic device for detecting radioactivity.

geology—The scientific study of the Earth's composition, structure, age.

geophysics—The science treating of the physics of Earth.

glacier—A field or body of ice, formed in a region where snowfall exceeds

melting, moving slowly downhill.

gravity—The force exerted on a body which pulls it toward the Earth and gives it weight.

ionosphere—Region of the atmosphere (from 50 to 250 miles above Earth) between stratosphere and exosphere.

latitude—Distance measured in degrees north and south from the equator.

light year—Distance light travels through space in one year.

longitude—Distance measured in degrees east and west from the equator.

magnetic field—Lines of force around the poles of a magnet or around an electric current.

meteor—A heavenly body of rock and/or metal which burns as it passes through the Earth's atmosphere; a "shooting star."

meteorite—A meteor that has struck the Earth's surface. (*See meteor.*)

meteorology—The study of the atmosphere and its variations of weather.

oceanography—The study of oceans, their currents, depths, mineral content, geography, plant, and animal life.

orbit—The nearly circular path of the Earth or any other body around the sun. A path in space along which a heavenly body moves around its center of attraction.

planet—Any large body in space, except a comet, revolving in a nearly circular path around the sun.

radiation—The process of sending out waves of light or heat.

radioactivity—The process by which a substance spontaneously changes to another substance, at the same time releasing energy.

rocket—A device consisting of a combustion chamber and an exhaust nozzle supplied with fuel and the oxygen necessary for combustion.

satellite—A subordinate body, revolving about a larger or primary body.

seismic—Anything which has to do with the nature of earthquakes.

seismic waves—Shock waves caused by earthquakes.

seismograph—A device which measures and records the motions of earthquakes.

solar—Pertaining to the sun.

sunspots—One of the dark spots that appear from time to time on the surface of the sun, usually visible only with a telescope; their appearance is frequently accompanied by magnetic storms on earth

stratosphere—The middle region of the atmosphere (from 10 to 50 miles above Earth) between the ionosphere and the troposphere.

troposphere—The lowest portion of the atmosphere (10 miles high), the part in which we live.

ultraviolet rays—Short invisible light rays from the sun.

HOW NEW RULE CHANGES TURNED THE TIDE FOR MIDVILLE
MIDVILLE HAD BEEN THE FAVORITE BUT FUMBLES AND INCOMPLETED PASSES HAD COST THEM THE GAME. BACK IN THE LOCKER ROOM THE COACH WAS SAYING...
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Sounding the Oceans

(Continued from page 17)

In September, oceanographers discovered a deep crack in the floor of the Gulf of Alaska. The crack is from 500 to 700 feet deep and at least 250 miles long.

Oceanographers suspect the crack to be the birthplace of devastating tidal waves. These tidal waves, when they occur, sweep southward over the Pacific Ocean at a speed of hundreds of miles per hour. Discovery of the crack thus may help oceanographers to improve their detection and warning system for tidal waves in the Pacific Ocean.

Greater knowledge of ocean currents and their movements also will tell scientists whether the ocean is a safe place in which to dump dangerous radioactive wastes. The National Academy of Sciences estimates that by 1980, the U. S. will have to dispose of 200,000,000 gallons of radioactive wastes each day. By the year 2,000, this figure will have soared to 2,400,000,000 gallons! However, if scientists can locate places on the ocean's floor where there are no currents, the disposal problem will be solved.

Project Vanguard

(Continued from page 19)

participate in a project called "Operation Moonwatch." They will track the satellite with inexpensive telescopes at dawn and at dusk. Only at these times will the satellite be visible. Its shiny surface will reflect sunlight against a partly darkened sky. *(For information on how you can join "Operation Moonwatch," see page 21.)*

It will be very difficult to spot the earth satellite without a telescope or binoculars. For the satellite will be about as visible to the naked eye as a shiny golf ball traveling at the speed of sound (about 770 miles per hour) at an altitude of 60,000 feet.

What will be the lifetime of a satellite? Estimates vary from a few weeks to many years. Air is very thin in outer space. But there is still enough air to cause friction that will slowly sap the speed of the satellite. As it slows down, the Earth's gravity will slowly pull the satellite earthward. Finally the satellite will dip into the denser layers of the Earth's atmosphere. There the friction against the satellite will set it ablaze and burn it to a crisp.

Thus the Earth satellite will die a blazing death. But it will be a blaze of glory. For each man-made "moon" will mark a major milestone in man's struggle to piece together answers to the mysteries of the universe.

Whither Weather?

(Continued from page 16)

day. From about 700 stations will come reports on the upper atmosphere. Balloons carrying radio transmitters to the 100,000-foot level will report temperature changes at various altitudes, changes in humidity, and changes in wind direction and speed. Still other stations will send rockets aloft to sample the ionosphere's electrical charge, which influences weather.

Data from around the world will be sent to the World Meteorological Organization, which has its IGY headquarters in Geneva, Switzerland. The information will be coded on cards. By the end of IGY, weather researchers all over the world will be able to get an 18-month picture of the world's weather by ordering a complete set of cards (15,000 of them) at a cost of about $3,000.

By tracking tornadoes and hurricanes from high altitudes meteorologists will learn more about the birth, life, and death of these storms.

For a longer look ahead, oceanographers and climatologists may be able to predict the areas of the world that may be drying up, growing warmer, or becoming wetter. Climate forecasts of this type could become an important factor in a nation's political and economic development.

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Following the FILMS

✓✓✓✓Tops, don't miss. ✓✓✓Good. ✓✓Fair. ✓Save your money.

✓✓✓✓THE TIN STAR (Paramount. Produced by William Perlberg and George Seaton. Directed by Anthony Mann.)

Henry Fonda gives another of his fine performances in this thoughtful western. He is a cynical ex-sheriff who breezes into a small town to collect his bounty for capturing desperadoes. A kind widow (Betsy Palmer) and her little son (Michel Ray) persuade him to stay a while. He meets the town's new sheriff (Anthony Perkins) and teaches him a few things about the business. Together they capture a pair of killers. But it is Perkins who later proves his worth as a man of the law in spite of Fonda's cynicism. A climax involving a wild lynch mob carries the film to heights of excitement, tempered with lively examples of frontier democracy and tolerance.

✓✓✓SLIM CARTER (Universal. Produced by Howie Horwitz. Directed by Richard Bartlett.)

This comedy-drama about life in Hollywood centers on a studio publicity woman (Julie Adams), a self-centered cowboy star (Jock Mahoney) and an orphan (Tim Hovey). Jock is discovered working in a nightclub, whisked to Hollywood by Julie, given the name "Slim Carter," and trained for horse-operas. He soon gets too egotistical for the taste of his fellow movie workers. An orphan later wins a "Visit Slim Carter" contest and comes to live with the western hero for a month. The results are both amusing and touching. *Slim Carter* is not a great picture about Hollywood, but it is nicely acted and does have some revealing things to say about fame and the movie colony in general.

✓✓✓THE BABY AND THE BATTLESHIP (DCA. Produced by Anthony Darnborough. Directed by Jay Lewis.)

Photographed in Italy and the Mediterranean in Eastman Color, this pleasant English film runs the comedy range from satire to slapstick. Three sailors (John Mills, Richard Attenborough and Bryan Forbes) alarm the British Navy by smuggling a baby aboard their battleship—in the midst of NATO maneuvers! It all begins with a sight-seeing visit to Naples. John agrees to mind the baby sister of a beautiful Neapolitan, who goes out on a date with Richard. As could be expected, the swabbies get into a minor brawl, become separated, and John is left holding the—baby. He smuggles it aboard ship as a quick solution to his troubles. Bryan Forbes gets in on it with some expert knowledge of baby care. But when a foreign dignitary visits the ship in the middle of its Mediterranean voyage, it all spells some very funny trouble. The English are at their best when they kid themselves, as they do in this film.

—PHILIP T. HARTUNG

MOVIE CHECK LIST

✓✓✓✓Tops, don't miss. ✓✓✓Good. ✓✓Fair. ✓Save your money.

Drama—(D); Comedy—(C); Musical—(M); Documentary—(Y); Animated Cartoon—(A); Western—(W).

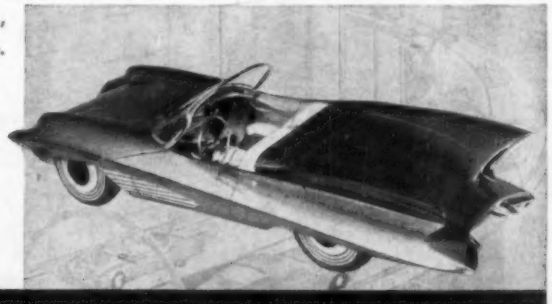
✓✓✓✓Time Limit (D); A Man Escaped (D); The Spanish Gardener (D).

✓✓✓Perri (Y); 3:10 to Yuma (W); Man of a Thousand Faces (D); That Night (D); Operation Mad Ball (C); No Down Payment (D); Night Passage (W).

✓✓The Helen Morgan Story (D); The Land Unknown (D); Tip on a Dead Jockey (D); Joe Dakota (D).

✓Jet Pilot (D); The Devil's Hairpin (D); Enemy from Space (D).

IT'S EXCITING TO BUILD a model "Car of Tomorrow" like this winner in last year's Fisher Body Competition.



ARE YOU THE BOY WHO WILL WIN

...1 of 8 University Scholarships
...1 of 10 Styling Scholarship Trust Funds
...1 of more than 1,000 other Cash Awards bringing the award total to $115,000

in the FISHER BODY CRAFTSMAN'S GUILD MODEL CAR COMPETITION *for 1958*

JUST this past year, teen-age boys the country over designed, built and submitted entries typified by the brilliantly styled, beautifully constructed model pictured here.

It was no easy assignment. But to the 1,038 winners, it was well worth all the thought and preparation – all the long hours of careful, patient work. Their reward: satisfaction in jobs superlatively done—and the wonderful awards listed above.

Now, as the '58 competition opens, this same great opportunity is once again open to boys all over America. That means *you*—and any other boy with an original idea about how the Cars of Tomorrow should look—plus the skill to make his idea come alive in a carefully made model.

You may build a hardtop, sedan, convertible, station wagon or sports car. Just follow the few simple rules in the free booklet, "How to Build a Model Car" – which also has invaluable suggestions.

But don't delay! *Right now* is none too soon to enroll for '58 competition. You'll need every spare second to design and build yourself a winner by competition's close next June. Good luck!

Fisher Body Craftsman's Guild, Detroit 2, Michigan

Please enroll me in the '58 Model Car Competition. Send me my Craftsman's Guild Membership Card and FREE instruction booklet, "How to Build a Model Car."

NAME _____
(Print) First Name Middle Initial Last Name

ADDRESS _____
(Print)

CITY & ZONE _____ STATE _____
(Print)

IMPORTANT: *Only boys born in the following years are eligible. Check the year of your birth below:*

SENIOR DIVISION		JUNIOR DIVISION	
1937 ☐	1940 ☐	1942 ☐	1945 ☐
1938 ☐	1941 ☐	1943 ☐	1946 ☐
1939 ☐		1944 ☐	

Dept. S-2

Words About Music

Popular

Where Are You (Capitol). Frank Sinatra comes through again with a fine collection of melodies sung with his accustomed ease and feeling. Gordon Jenkins and his orchestra back him up on *The Night We Called It a Day, Autumn Leaves, Lonely Town* and other fine tunes.

Temptation (RCA Victor). One of the more interesting mood music albums to come on the scene, this time wrapped up by Morton Gould and his orchestra. And you can't beat songs like *Body and Soul, Speak Low,* or *Night and Day,* to mention just a few.

Put the Blame on Mame (Epic). If you like to sing with a crowd, then get the crowd to hear this album by Somethin' Smith and the Redheads. These songs-to-get-a-haircut-by (*Cruising Down the River, Mandy,* etc.) just never lose their appeal. Give a listen to Smith's treatment. It's not bad.

Classical

The Sea (*Debussy*), *Ports of Call* (*Ibert*) (RCA Victor). Packaged in a book-album, these fine recordings by Charles Munch and the Boston Symphony Orchestra are complemented by jacket notes that describe the sea in the words of Rachel Carson, Joseph Conrad, and Herman Melville.

Country and Western

Sing Me a Blue Song (MGM). The late Hank Williams continues to impress us, posthumously, with his dramatic voice. This disc includes four numbers he composed (including the lovely *Singing Waterfall*) plus other favorites.

Wilburn Brothers (Decca). The Brothers will not disappoint their fans with this, their first album. Four of the numbers are brand new.

Humor

The Hoffnung Music Festival Concert (Angel). An unusual practical joke played by the English cartoonist, Gerard Hoffnung. Selections of "great" works include *Grand Grand Overture for Orchestra, Organ, Rifles, Three Hoover Vacuum Cleaners and an Electrical Floor Polisher.* —ART STONE

An Idea for Your Christmas Gift...

S'pose Mum and Dad are trying to figure what you'd like best for Christmas? Then how about suggesting a Burrowes Pool Table? Think of the fun of playing with friends — or family — or just practicing trick shots! All Burrowes Tables fold for easy storage and come complete with balls, cues, triangle, rules. Send for free booklet today!

A BURROWES POOL TABLE

COMMENDED BY PARENTS' MAGAZINE

FREE BOOKLET . . . How to Play Pool! An illustrated 12-page booklet that shows you positions, where to hit the cue ball and how to play several games of Pool. Descriptive folder and name of dealer included. Send 3¢ stamp for postage to The Burrowes Corp., Dept. C-710, Portland, Maine.

Looking and Listening

▸ If you have any interest in science or any curiosity in the world around you, then don't miss *The Strange Case of the Cosmic Rays,* tonight, Friday, Oct. 25, on NBC-TV. This is another special Bell Telephone System program, produced by the same people who did *Our Mr. Sun* and *Hemo the Magnificent* last year. Academy Award winner Frank Capra will direct actors Richard Carlson and Dr. Frank Baxter and will coordinate the cartoons, puppetry, and live action for this fine show.

▸ Sunday will be another Big Day for televiewers. First off, a new program called *The 20th Century* will tell the fascinating story of guided missiles. Titled "V-2 and the Guided Missile," the script was written for CBS-TV by Hanson Baldwin, a very famous and reliable military expert. On NBC-TV, *Wide, Wide World* is going to show us the life of a typical American doctor—how he's trained, how he works, lives, and plays. As usual, Dave Garroway and Charles Van Doren are the hosts of this show. Rounding out a good TV day will be the CBS *See It Now* program, which will show an award-winning movie called "The Secret Life of Danny Kaye." Danny made this movie while he toured the world on behalf of the United Nations International Children's Emergency Fund (UNICEF).

▸ One of Mark Twain's finest novels—"The Prince and the Pauper"—will come to life on CBS-TV this Monday, Oct. 28, when the *DuPont Show of the Month* presents Sir Cedric Hardwicke, John Carradine, Hurd Hatfield, and other famous stars in a TV version of the book. Johnny Washbrook will play the ragged little pauper who looks just like the Prince (Rex Thompson) and very nearly becomes the King of England because of this likeness.

▸ Thursday is a glittering night, even though it's Halloween. Boris Karloff (naturally) will be around as guest of Rosemary Clooney on NBC-TV. Then Jack Benny will headline another *Shower of Stars* for CBS-TV. His guests will include Carol Channing and Fred MacMurray. *Playhouse 90,* also CBS-TV, will present "The Story of Senator Gore." The *Playhouse 90* script tells the story of a Tennessee senator who showed courage at the right time.

To take full advantage of this listing, check your local newspapers for the time and channel of each program. Happy viewing! —DICK KLEINER

LAUGHS

No Good

A young scientist invented a jet projectile with a camera attached. He took it to the testing grounds out in the desert. It was set off, and flew hundreds of miles straight up. When it reached the peak of its flight up beyond the stratosphere, the camera photographed the entire earth.

"How did the picture come out?" the scientist was asked a few days later.

"No good," was the dejected reply. "Somebody moved!"

Dan Bennett, Quote

Good Hunch

The rancher was driving an Easterner over a dry and barren section of western Texas. The sun was blistering hot. Suddenly a gaudy looking bird ran in front of the car. The Easterner seemed quite interested, and inquired about it.

"That's a bird of paradise," said the rancher.

The next mile was driven in silence, which was suddenly broken by the visitor.

"Pretty long way from home, isn't it?"

The Wall Street Journal

No Raise

Employer: "Yes, I can give you a job. I'll pay you one hundred dollars a week for six months. then cut your wages."

Recent graduate: "But it's the usual procedure to get a raise after six months."

Employer: "I know, I know. But I have a beautiful daughter, and I figure that in six months you'll be so much in love with her that you'll be willing to work for nothing just to be near her."

Tulsa Topics

Answers to Last Week's Crossword Puzzle

P	A	S	T	E	L	■	A	R	T	I	S	T		
O	L	L	A	■	I	N	K	■	O	S	L	O		
S	T	I	L	L	■	A	■	E	A	S	E	L		
T	O	N	E	■	D	I	M	■	D	U	D	E		
E	■	G	■	C	O	L	O	R	■	E	■	D		
R	A	■	F	O	G	■	B	O	A	■	E	O		
■	F	O	R	M	■	■	■	D	R	A	W	■		
D	T	■	A	I	R	■	W	E	T	■	E	V		
R	■	M	■	C	U	R	I	O	■	R	■	A		
A	P	E	D	■	B	O	G	■	F	A	L	L		
F	E	T	I	D	■	S	■	B	A	Y	O	U		
T	E	R	N	■	P	E	N	■	C	O	N	E		
S	K	E	T	C	H	■	S	C	E	N	E	S		

Drawl It Again!

When Senator John Stennis of Mississippi reached into rural New Albany, Miss., and recruited Elwyn Darden for his press secretary, he imported to Washington the possessor of a Southern drawl so thick it almost required an interpreter to get at his meaning.

After much misunderstanding, Darden phoned a speech school and said he wanted to enroll. He was asked to repeat. Then he was asked to repeat it again. Finally, the female at the other end asked:

"Can't you speak more clearly? I can't make out a word you say!"

"I know," sighed Darden. "That's why I want to take your course!"

George Dixon, King Features Syndicate

Whopper!

Fred: "You say you caught a fish?"

Lon: "Yep, but it was too small to fool with, so I had a couple of fellows help me throw it back into the lake."

McCall Spirit

"Bob and I are showing off his new car, and we thought we'd stop by your place to take you for a ride. Can you come?"

It's a good idea to call ahead before dropping in on friends. Put yourself in Ann's place, for instance. She might be giving herself a permanent... or her mother might have some important chores scheduled for her to do.

It's so easy to *always* do the thoughtful thing because there's *always* a telephone close at hand!

It's smart to use the telephone – and fun, too!

BELL TELEPHONE SYSTEM

How to have Lovelier Skin

now—and the rest of your life!

The secret is simple—as thousands of happy girls testify. It's Cuticura Soap and Cuticura Ointment!

Cuticura Soap is one of the mildest and finest of all soaps. Uniquely *super-emollient*, it helps maintain the natural moisture of the skin. Mildly medicated, it protects and preserves.

Blackheads, externally caused pimples, oily shine or flaky dryness, call for Cuticura Ointment to soften and gently stimulate as it helps relieve.

In just 7 days you'll begin to see new softness, freshness, radiance.

SEND FOR FREE Wall Chart illustrating Correct Way to Wash Your Face. Write Cuticura, Dept. SS-710, Malden 48, Mass.

COMMENDED by the Consumers Research Institute for PARENTS MAGAZINE

Cuticura

SEND FOR

FREE SCIENCE BOOK!

BOYS! GIRLS! WIN A

$1,000

COLLEGE SCHOLARSHIP

Many Other Awards, Too

Be a scientist! Start today—send for your free copy of "Wonders of Science", the fascinating book that tells you how to enter the contest and shows you all the famous Porter Chemcraft & Microcraft outfits.

PORTER SCIENCE OUTFITS

The Porter Chemical Co.
Dept. 62, Hagerstown, Md.

Send my FREE copy of "WONDERS OF SCIENCE".

Name ..... Age .....

Address .....

City ..... State .....

Stamps

By TONY SIMON
Director, U. N. Stamp Clubs

Canada issued this stamp on October 10 to commemorate the visit of Queen Elizabeth II and Prince Philip, her husband. Their profiles are pictured on the stamp.

The Queen and Prince Philip arrived in Ottawa, Canada's capital, on October 12. On October 16 they left by plane for Jamestown, Va., to attend the Jamestown Festival. This is a year-long celebration of the 350th anniversary of the founding of Jamestown, the first permanent English settlement in America. October 17-20 the couple were the guests of President and Mrs. Eisenhower at the White House in Washington, D. C.

This is Canada's second stamp in honor of Elizabeth and Philip. The first was issued in 1951 when they paid their first visit to Canada before Elizabeth was crowned Queen.

Watch for a new U. S. wildlife conservation stamp this month or in November. It will call attention to the whooping crane, one of the world's rarest birds. At present, only about 30 cranes are known to be alive.

You receive two U. N. stamps in a plastic wallet as a gift if you join the U. N. Stamp Clubs (UNSC), conducted by *Scholastic Magazines*. For an application, write to: U. N. Stamp Clubs, 33 West 42nd Street, New York 36, N. Y. As a UNSC member you also get six information kits. Each kit contains a copy of *The Globe-Trotter*, for every member of your club. *The Globe-Trotter* is the UNSC news bulletin.

First-day cover collectors of U. S. or U. N. stamps can subscribe to a commemorative cover service. All of the U. S. covers bear special cachets (designs). The U. N. covers are official envelopes of the United Nations. For information write to the UNSC outlet: F.U.N. Cover Service, Box 34, Whitestone 57, N. Y.

SWEET, HEALTHFUL AFTER-SCHOOL TREAT— **SUN-MAID RAISINS**

Get Energy The Easy, Pleasant Way

Ask Mom to get the SUN-MAID 6 Pack —six pocket packages for between-meal snacks that are good for you!

Sending for Stamps?

Our readers are advised to read an advertisement carefully before sending for stamps. If the advertisement mentions "approvals," the stamp dealer will send you in addition to any free stamps, or stamps you pay for in advance, a selection of other stamps known as "approvals." Each of these "approval" stamps has a price clearly marked. If you keep any of the "approval" stamps you must pay for them and return the ones you do not wish to buy. When writing to stamp advertisers be sure to write your name and address on your letter and on the upper left-hand corner of the envelope. If you do not intend to buy any of the "approval" stamps return them promptly, being careful to write your name and address in the upper left-hand corner of the envelope in which you return the stamps.

STAMP COLLECTION of 10 EXCITING STAMP ISSUES

PLUS HIGH VALUE BONUS all for only **25¢**

1. Giant new Czech Boy Scout Issue
2. Set of 5 World-Famous Paintings
3. Germany Schumann-Music Error Stamp
4. Liberia Olympic Set Complete
5. Spain Civil War Min. Sheet
6. Germany Flower Issue
7. New Musician Set Complete
8. Germany Cycle Races Complete
9. Romania Phantom Set Complete
10. New Stamp Day Issue Complete

BONUS: Scarce High Value pictorials Catalog-ling over $2.00 (alone worth many times the price of this collection).

ALL THE ABOVE PLUS a 48 PAGE STAMP DICTIONARY for only 25c to introduce our bargain approvals.

STAMPEX CO. Box 47-TSC, White Plains, N. Y.

135 ORIENTALS only 25¢

Brought to you from the farthest corners of the earth—this amazing collection of exotic valuable STAMPS of the mysterious Orient! 135 all-different from Borneo, Siam, China, Japan, Hong Kong, Malaya, Sarawak, Singapore, etc. Scarce Airmails, Semis, beautiful girls, temples, mountains, birds, animals. Worth $2.64 at Catalog prices! PLUS Big Bargain Catalog. *All for 25¢*—ACT NOW!

JAMESTOWN STAMPS, D185G JAMESTOWN, N.Y.

FREE! 107 British Colony Stamps. All different, from Britain's farflung colonial empire. Catalog value $2.50. Free Stamp Magazine, Approvals. Send 10¢ for handling. Act now! Niagara Stamp Co., St. Catherines 722, Ontario.

TERRIFIC STAMP BARGAIN!

Israel—Iceland—Vatican Assortment—plus exotic triangle set—Also fabulous British Colonial Accumulation—Plus large stamp book—All four offers free—Send 10¢ to cover postage. Empire Stamp Corp., Dept. SB, Toronto, Canada.

Free-Mint British Colonies

from North Borneo, Caymans, Seychelles, Dominica, Papua, New Guinea, Sarawak, Brunei, Free with approvals.

Viking Stamp Co., 11-G Northern Blvd., Great Neck, N.Y.

A Show of Hands

Photo courtesy of Trushay

Since your hands are always in view, keep them clean, smooth, and soft.

YOU'RE at a dance. Your hand joins his as you whirl around the floor.

You're at school. Your hand shoots up to answer a question which the teacher has asked.

You're having dinner at a friend's house. You pass your plate to the hostess for a second helping.

Those hands of yours are always up to something. And since they *are* always in sight, they should never "be a sight." Here are some tips to help you keep them immaculately clean, smooth, and free of callouses:

When it's cold outside, wear gloves to help prevent chapping.

When you wash dishes in hot water, use a dish mop or wear rubber gloves to keep away unsightly redness.

When you open jars, untie knots, or remove thumbtacks, never use your fingernails. Jobs of this kind often make your nails break.

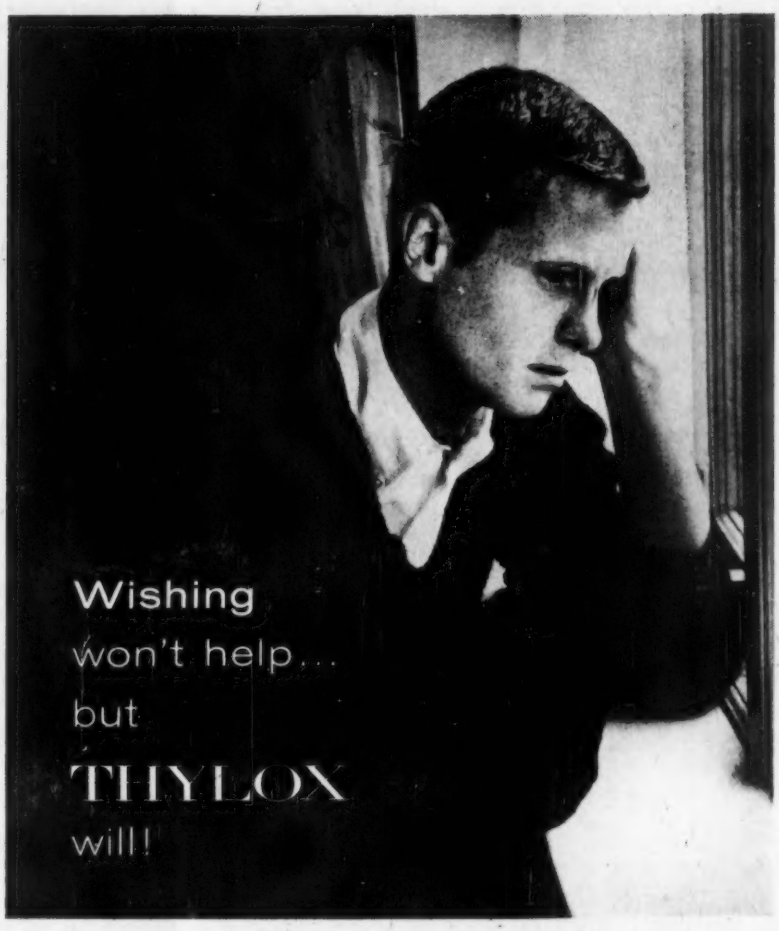
If you're bothered by callouses on your hands, dampen a pumice stone and rub it gently over the rough areas.

Make sure your hands are always clean. When you wash them, use a mild soap and lukewarm water. Rinse your hands and dry them thoroughly. Apply lotion or cream to the backs of your hands and rub it in well. This is another measure which will help prevent chapping.

If you're a nail-biter, you want to break the habit, of course. That's easier said than done, but making an attempt is half the battle. Just why do you bite your nails? If there's something that constantly bothers you, maybe you'd be wise to talk things over with your parents.

If there's a special party coming up in a month or so, make a bet with yourself that your nails will be long and pretty by that time. Often a self-imposed deadline will provide just the right incentive.

With a little effort, you'll have beauty "at hand."



Blemishes dry up fast!

THYLOX MEDICATED CREAM

heals and clears while you sleep!

Thylox Medicated Cream treats and heals pimples from the very *first* application, as proved in hundreds of clinical tests.

At the first sign of pimples, don't wait. Even little blemishes can develop into acne pimples that may leave scars! Get Thylox! Its exclusive curative ingredient has been recommended by doctors for over 10 years—now, no prescription needed. Thylox will give you a cleaner, clearer, better-looking skin—quicker than you ever thought possible!

Also make Thylox Medicated Soap your daily soap. Cleans and erases blackheads, clears pores. Contains a germicidal agent that prevents spread of acne infection. Relieves oily skin without drying it . . . . . 50¢

PRODUCTS OF THE PHARMACEUTICAL DIVISION OF SHULTON

Here's Looking At You!

Q. My clothes always seem so dull, but I can't afford a whole new wardrobe. What can I do to pep up my outfits?

A. An accessory, such as a scarf, an artificial flower, or a piece of jewelry, can make any outfit look like a million dollars. Try wearing a brightly colored scarf at your neck. Or hook it over your belt or pocket. With skirts and blouses, a scarf makes a novel cummerbund.

Tawny-colored autumn leaves, real or artificial, will spruce up a fall costume when worn at the neck or waist. A gay belt can add spark to separates, too.

Jewelry, such as bracelets, necklaces, and pins, can add color to your clothes. Select carefully the type of jewelry you wear. Rhinestones don't go with Bermuda shorts and large button earrings aren't made for round faces.

Q. I often have trouble getting to sleep at night. What can I do?

A. The first rule for getting to sleep easily at night is this: Don't worry about it. If you climb into bed and toss restlessly while wondering when you'll fall asleep, you'll only get up tired and grouchy in the morning. Remember that you benefit from the rest you get just lying quietly in bed. That ought to keep you from getting panicky about loss of sleep.

Be sure there's plenty of fresh air in your room. A comfortable bed is essential. Quiet surroundings also make it easier to sleep. If your insomnia persists, ask your family doctor for his suggestions.

Q. What kind of cosmetics should a high school girl use?

A. Those who use make-up most successfully follow one simple rule: *Look natural.*

Lipstick is effective if it is put on properly and if the shade suits your coloring. Face powder may be used to cover a shiny skin and to soften your complexion. Choose a shade slightly darker than your complexion. For special evening occasions, a touch of rouge and an application of eye make-up can be attractive. But don't overdo it – you'll only succeed in looking clownish.

• • •

Male Modes . . . If you've asked your favorite Sally for a Saturday night date and you're not sure just what to wear, here are some tips for you. If you're going to a dance, a suit, shirt, and tie is the order of the evening – unless, of course, it's a barn dance. If you're going to a movie or to the local canteen, a fresh sports shirt with well-pressed trousers will fill the bill. But wherever you go with Sally, be sure your clothes are clean and neat. Sally will notice—and say "yes" again!

• • •

Breakfast Bonus . . . It doesn't take a wizard to know that a car runs best on a well-balanced mixture of gasoline. And it doesn't take a genius to tell that the human body runs best when it's fed with a well-balanced breakfast.

Too often breakfast is treated as just another chore which has to be done before school. But a wholesome breakfast can make the difference between a good day and a bad day. Plan your mornings so that you have enough time to sit down for breakfast.

A well-rounded breakfast should include milk, toast, cereal, fruit, and eggs. This doesn't mean once a week, but every single day. Doctors' tests have proved that teen-agers work better and think better after a good breakfast.

• • •

Beat the Blues . . . Here's a sure-fire prescription to solve your troubles. The first ingredient is starting the day with zest. Get moving. Don't dawdle. Tune in to a lively program on your radio. Try a few quick setting-up exercises.

Nothing beats a snappy hot-and-cold shower for washing away your worries. Have a happy greeting for your family. If you're a man (or woman) of action, you won't have time for the blues.

• • •

Standing Tale

Tess tips the scales at 109.
Her clothes are neat; they fit her fine.
But no one looks at Tess at all–
Poor posture is her one downfall.

BEAUTY IS AS BEAUTY DOES

Photos courtesy of Thylox

Soap, hot water, and frequent washings are the best treatments for your skin. Wash your face as often as is possible.

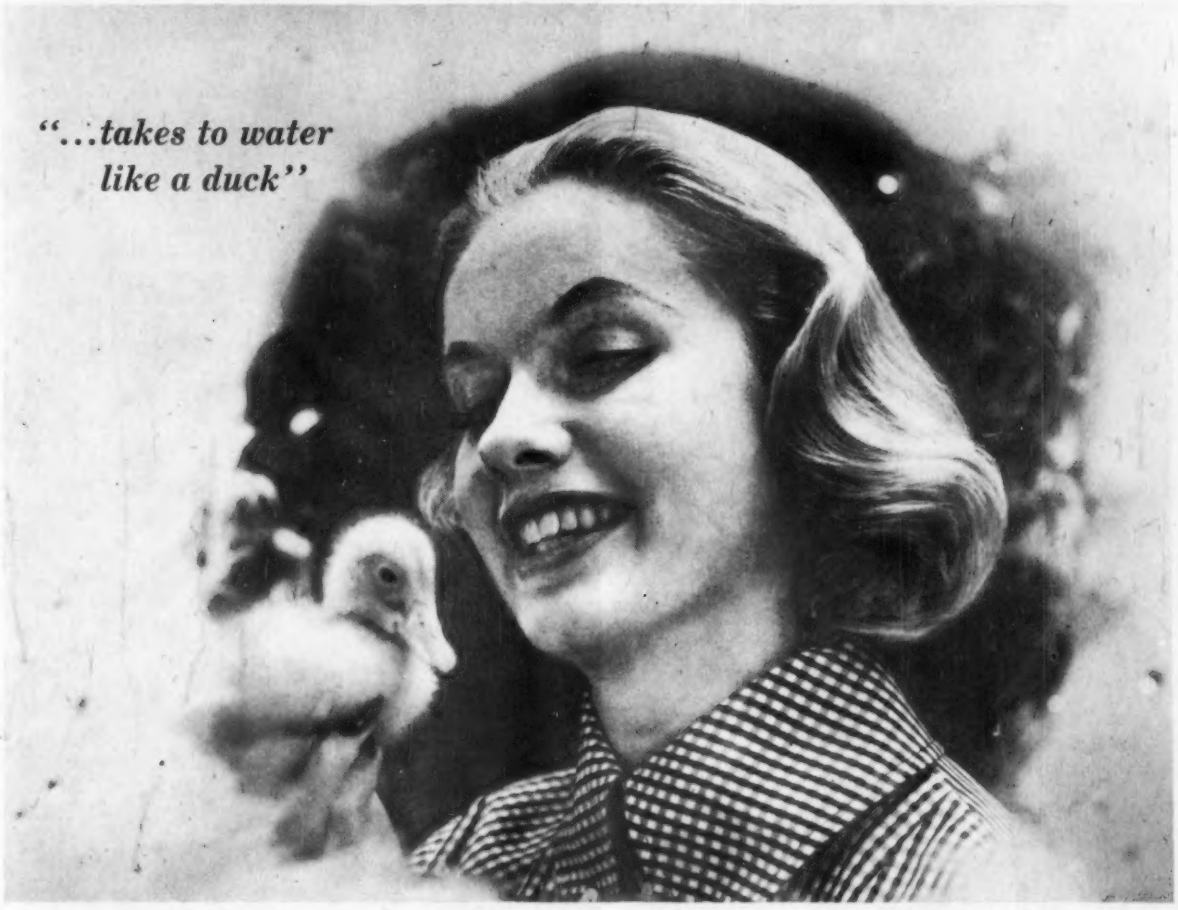
A medically-approved cream, applied to trouble spots, will help make skin silky soft. Use cream each night before bed.

Frequent shampooing leaves hair soft and attractive. To clear up scalp conditions, use a specially medicated shampoo.

Daily care will pay off for you with lovelier skin and shinier hair. Good grooming habits can't be neglected a single day.

Here's the only pincurl permanent that gives you

Weatherproof Curls!



You get soft, shiny curls 5 times faster! Guaranteed to last longer than any other pincurl wave!

Even in the rain you look so pretty with new Pin-Quick! Weather and water can't weaken *these* curls. They're locked in to *last!*

Softer curls! Only new Pin-Quick gives you Lano-Clear Lotion, babies your hair with lanolin as it waves in soft, casual curls!

More shine than ever before! Only wonderful new Silicone in Pin-Quick can put such a dancing twinkle in your hair!

And Pin-Quick's 5 times faster! The only pincurl permanent with a neutralizer...dry it safely in minutes with a dryer or in the sun! Get new Weatherproof Pin-Quick now.

RICHARD HUDNUT'S PROMISE!

New Pin-Quick is guaranteed to last longer than any other pincurl permanent—or your money back.

$1.75 plus tax

New Siliconed

PIN·QUICK

by

RICHARD HUDNUT

©1957 Lambert-Hudnut Division, Warner-Lambert Pharmaceutical Co.

girls who rate keep a daily date with

SALON COLD CREAM

used daily, its "MAGNETIC" ACTION stops skin problems before they start

Only clean skin can be clear skin. So Dorothy Gray Salon Cold Cream is whipped extra-fine to go deeper . . to draw grime, oil and stale make-up right out of your skin. Remove these and there goes the cause of many skin problems. Use Salon Cold Cream every night . . . and whenever you change make-up . . . for that clear, fresh glow! $1.25. In Canada, too.

For beauty the modern way

Dorothy Gray

Teaching Guide for this issue of Senior Scholastic

How to Use This Issue

1. Before distributing the magazine, announce to the class that this is a special issue of *Senior Scholastic* devoted to the International Geophysical Year.

2. **Motivation:** Early this month when Russia launched a man-made moon, which circled the Earth at a speed of 18,000 miles per hour, the news almost crowded out the World Series. Why was world-wide interest in the man-made moon so tremendous?

3. Distribute the magazine and give students about five minutes to skim the issue.

4. **Question:** This is a social studies class. Why should we give time to a discussion of the International Geophysical Year? (See *Scholastic Teacher*, "Sputnik and You," for a review of the new yearbook of the National Council for the Social Studies, *Science and Social Studies*.)

Aims

1. To acquaint students with the major areas of research undertaken by 64 nations during IGY.

2. To help students understand the great impact on society of science and technology.

3. To encourage a continuing interest in science news as a requirement for the alert, well-informed citizen.

4. To make it clear that science news is not the peculiar province of the science classroom but is a proper and necessary part of social studies learnings.

Assignment

1. Read the introduction to IGY, page 10. Why were the physicists so enthusiastic about organizing an International Geophysical Year?

2. Select one of the basic areas of research (sun, poles, weather, oceans, satellites, or Earth) and study the article devoted to it. Discuss one of the effects on us that may result from the scientific research being carried on during IGY.

3. Bring to class one newspaper clipping on IGY and be prepared to discuss its significance.

Discussion Questions

General

1. Why was the 18-month period from July 1, 1957, to December 1, 1958, selected as the time for the International Geophysical Year?

2. A byproduct of IGY may be the development of friendship among nations who now face each other in the cold war. How might this come about?

3. People are naturally interested in knowing about immediate benefits to society from IGY. To what extent is this a shortsighted view of the value of IGY?

4. Describe some other period of history you have learned about in which great changes took place. (Exploration of the New World, Industrial Revolution in England, Napoleonic Wars, World War I, etc.) What similarities, if any, do you see between the period you have described and the nuclear age into which we seem to be moving? Differences?

5. Name and tell us something about the contribution of inventors or scientists you have met in the pages of history books. What conclusion can you draw as to the amount of time we give to learning about science in social studies classes? Should we give more time in social studies classes to studying the implications of science? Defend your answer.

6. The American Association for the Advancement of Science has called upon its members to "concern themselves with social action." What does this mean? Are scientists responsible for the uses to which their discoveries may be put? Justify your point of view.

The Sun

1. Discuss the possible connection between new discoveries about the sun and improved radio-TV broadcasting.

2. Why should farmers think twice about the interest meteorologists are showing in the sun?

The Poles

3. Why is the Antarctic thought of as a mysterious continent?

4. Why should scientists give any thought to whether the polar icecaps are, or are not melting?

5. In what sense is there an international flavor about the Arctic? (Use the world map to illustrate your answer.)

Weather

6. What do we mean when we speak of long-range weather forecasting?

7. What justification is there for describing the Arctic and the Antarctic as the great north and south weather factories?

8. Discuss one suggested connection between our automobiles and factories and a change in the world climate.

9. Mark Twain is said to have remarked that everybody talks about the weather but nobody does anything about it. What second thoughts might Twain have if he were alive today?

The Oceans

10. Scientists have been discussing the world's population explosion. What connection do you see between the growth of the world's population and the ocean's fertility?

11. How may a study of the ocean currents relieve our fears about radioactive wastes?

The Earth and Man-made Satellites

12. Discuss the connection between the shape of the earth and the accuracy of the maps we are using.

13. How may scientific probing deep inside the earth make life on earth safer for people everywhere?

14. Russia's launching of the satellite, *sputnik*, has been described as a great propaganda victory. Do you agree with this evaluation? Why? How will man-made satellites help us to understand the earth on which we live?

Things to Do

1. Ask a science-minded student to give a chalk-talk on some phase of IGY research in which he is especially interested.

2. A committee can prepare a "You Are There" TV script for the establishment of one of our Antarctic stations, or the launching of a satellite, etc.

3. Students can give part of their clipping book to news stories, editorials, cartoons, etc. on IGY.

Coming Up!

in Future Issues

November 1, 1957

World Affairs Article: ***Our Central American Neighbors***

National Affairs Article: ***Water Resources—Conservation Problem No. 1***

Forum Topic of the Week: ***Financial Support for Our Museums—From Whom?***

Creative Americans: ***Thomas Jefferson —Designer of Ideals***

THIS WEEK'S QUIZ ANSWERS

(See page 24)

I. IGY: a-3; b-4; c-3; d-2; e-2; f-1; g-1; h-4; i-3.

II. Words: A. a-7; b-9; c-10; d-2; e-5; f-6; g-11; h-4; i-8; j-3. B. a-5; b-9; c-8; d-4; e-10; f-3; g-7; h-2; i-1; j-6.

III. Cartoon: a-T; b-NS; c-F; d-T; e-T.

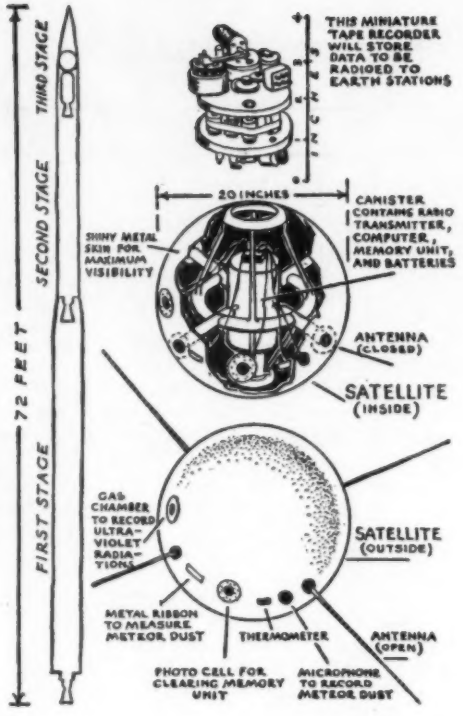
The IGY in the Junior High School

By RUTH E. FRANK

IN ORDER to be prepared for an intelligent approach to the International Geophysical Year, I strongly believed that my 8th Grade science classes needed a simple explanation of the reasons for this venture into space, especially the experiments with the man-made satellite.

They seemed highly motivated and eager to start the unit. I asked them to give me the questions which they would like to have answered. To do this we will have to review elementary school material on the stars, a seventh grade unit on Astronomy, and also develop new concepts of gravity, orbits, latest flight-instrumentation research. I arranged it as a two-week unit, with four periods per week, culminating in an all-day field trip to the Johnsville (Pa.) Naval Research Center.

The material available for research is easy to obtain and can be found on all reading levels. Some of their adolescent dreams, to conquer space, to reach the moon, to investigate life on other planets, to find new horizons, bring about readiness on the part of the pupil. With continued research, increased knowledge, and a continued quest for learning, their dream might become a reality.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SATELLITE (OUTSIDE)
METAL RIBBON TO MEASURE METEOR DUST
THERMOMETER
ANTENNA (OPEN)
PHOTO CELL FOR CLEARING MEMORY UNIT
MICROPHONE TO RECORD METEOR DUST

A huge three-stage rocket launches the tiny artificial satellite.

From Exploring Earth and Space, by Margaret O. Hyde, copyright 1957 by Whittlesey House. Reproduced by special permission.

I. What is the Man-Made Satellite?

Vocabulary: Satellite; Rocket; Spheroid; Launch; Artificial.

Concepts to be explored: Weight; Structure; Materials Used; Battery; Additional components.

How many persons are employed in the manufacture of the U.S. satellite?

Which companies are engaged in the manufacture and where are they located?

What changes in the U.S. satellite program may be expected as a result of the Russian success?

Activities:

1. A field trip to the Johnsville Naval Research Center to visit flight instrumentation laboratories, the largest centrifuge in the United States.

2. Drawings of the entire structure of the rocket, sub-divided into three groups, each pupil working on a different phase.

Mrs. Frank is chairman of the Science Department, Pennsbury Schools, Fairless Hills, Pa.

II. What information will the International Geophysical Year give us, and by what methods?

Vocabulary: Orbit; Stratosphere; Ionosphere; Velocity; Galaxy; Constellation; Telemetering; Cosmic Rays; Celestial.

Concepts to be explored:

Finding latitude and longitude on globe.

How earth's rotation gives additional acceleration to the satellite.

Measuring distances of space (to be done in math class).

How to observe constellations.

The sun's short-wave radiations and cosmic rays, as recorded by a small mechanism within the satellite and translated by a Geiger counter.

The earth's magnetic field, as surveyed by a magnetometer.

The density of electrons in space.

Temperature in space: describe the use of the thermocouple.

Activities:

1. Filmstrip—"The Solar System," 41 frames, color. Describing the planets, moons of various planets, emphasizing the difference.

2. Filmstrip — "Atmosphere," 62 frames, black and white. Explains terms and concepts of air pressure.

3. Borrow Geiger counter from local Civil Defense Unit to show occasional cosmic rays. If not successful, use radium-dial watch.

4. Star-gazing field trip.

5. Prepare bulletin board with drawings and colorful magazine articles.

III. By what scientific laws is the Satellite governed?

Vocabulary: Geophysical; Oxygen; Thrust; Altitude; Gravitational pull; Trajectory; Observatory.

Concepts to be explored: Escape Velocity; Rockets and Jets (differences); Fuels—Liquid and Solid; Laws of Gravitation—Newton; Units of Acceleration (1-G near sea level); Sonic and Supersonic velocities; Laws of Optics—Telescope; Radio Communications—Telemetering.

Activities:

1. Construction of telescope.

2. Show gravitational pull by repetition of Galileo's experiment.

3. Lab experiment on fuels. Purpose: To make own oxygen by hydrolysis, use car battery, saltwater and H-shaped glass tube, collect oxygen and hydrogen from separate legs. Show improved burning in pure oxygen. Dangerous!! (Use only small amounts of hydrogen, it explodes: oxygen is safe.)

IV. How Do All Nations Work Together on this Project?

Vocabulary: Communication; International.

Concepts to be developed:

Science goes across national frontiers.

Satellite as first step towards manned flight, extraterrestrial, space stations and interplanetary flights.

Establishment of "Picket" stations in South, Central and North America.

Information from satellite to be made available to all nations.

IGY on Screen and Film

WITH the International Geophysical Year just beginning, many good films and filmstrips on IGY and related subjects will appear as the program progresses. However, at present, we can consider materials for teaching about IGY in three separate groups: those concerned directly with IGY which are available now; those materials which are in production; and the existing science films which are related to varied aspects of the Geophysical Year.

Project Vanguard, the launching and tracking of the earth satellite, is pictured in **A Moon Is Born,** a four-minute animated film (color or B&W) produced originally for television. Approved for accuracy by the Naval Research Laboratory, the Department of Defense, the National Academy of Science, and other government agencies, this film outlines many elements involved in the operation. It shows the launching of the 72-foot three-stage rocket and its flight into space. Minitrack and the optical tracking stations, including volunteer Moonwatch, are also shown. International Business Machines Corporation, sponsor of the film, has prints which it will make available to schools upon request. Requests may be sent to the Information Department, International Business Machines, 590 Madison Ave., New York. However, since this is the only film on the subject available at present, demand may be very heavy. Indicate alternate showing date.

Last year *The New York Times* (Office of Educational Activities, Times Square, New York 36) released a filmstrip, **Expanding Horizons For Science,** designed to intoduce the IGY. It covered briefly new advances in many fields of science, keying these to the international plans. Next April the *Times* will issue a filmstrip, **The World Around Us: Geophysical Year,** which will survey explorations and achievements currently being made by the scientific teams. These two strips are geared for senior high, but can find uses in many junior highs also, both in social studies and in science classes.

Just released are two films from the **Disneyland** TV show which can be used from the middle grades through high school: **Man In Space** and **Our Friend the Atom.** While your students have undoubtedly seen both on TV, repetition in class can have many values. **Man In Space** (35 mins.) surveys the historical development of rocket propulsion and includes a trip with man's first rocket flight into outer space. **Our Friend the Atom** (50 mins.) presents the development of the atomic theory. Information as to availability in your area can be obtained from the 16mm Film Division, Walt Disney Productions. Incidentally, Simon & Schuster has published a book based on **Our Friend the Atom,** and Dell has brought out a pocket edition of it.

Next summer should bring schools a series of 13 half-hour color films now being produced for educational television by WGBH in Boston. This series, being made in cooperation with the National Science Foundation, will cover all branches of science involved in IGY, stressing the "why" of the various phases. The series, to be shown on all educational television channels, with a possible commercial TV run, may be valuable film material for senior high, and possibly for some junior high classes.

Another exciting promise for future availability is **The Earth Is Born,** first of four films based on the *Life Magazine* series, "The World We Live In." Three and a half years in production, using a new technique combining stop-motion animation and live-action, this film is planned for release to theaters this fall. Plans also include release on 16mm to schools shortly after theater release. The other three films in the series should follow within a year. Each will run about 30 minutes.

Also in production, for release by Encyclopaedia Britannica Films (Wilmette, Ill.) probably in late spring, is **A Trip To the Moon.** Designed for high schools, the film will deal mainly with the physical problems involved in such a flight. It will also contain model-photos of the face of the moon.

Other Science Films

Coronet Instructional Films (65 E. South Water St., Chicago 1, Ill.) offers a large science film library for various grade levels. From it you might wish to select for lower grades such titles as **How Weather Helps Us,** or **The Big Sun and Our Earth.** For intermediate grades—**Life in Cold Lands, Understanding Our Earth: Soil, Maps Are Fun** or **Arctic Borderlands in Winter.** Junior high can use some of these, too, plus **Global Concepts in Maps, Maps and Their Uses, How Weather Is Forecast, The Solar System.** For senior high—**Nature of Energy, Understanding Our Universe.** These run about 11 minutes, either B&W or color. Each presents some concept or subject related to IGY activities and can be used to introduce or to stimulate interest in different phases of the program.

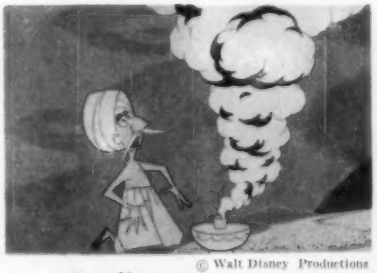
Similar selections can be made from the science offerings of other companies: Encyclopaedia Britannica Films (Wilmette, Ill.) for classes from the lower grades through high; from Moody Bible Institute (820 N. LaSalle St., Chicago 10) for most grade levels; Young America Films (18 East 41st, N.Y.C. 17) for intermediate or junior high; McGraw-Hill Book Company (Text-Film Dept., 330 West 42nd St., N.Y.C. 36) for senior high. McGraw-Hill also offers for upper grades or junior high the new **Junior Science Series,** on many subjects.

One very recent release on a related subject is **Earthquakes and Volcanoes,** photographed in cooperation with the Institute of Geophysics of the Univ. of California. It shows causes of both earthquakes and volcanoes, discussing the relationship between them. This film for junior and senior high schools comes from Film Associates of California (10521 Santa Monica Blvd., Los Angeles 25).

Also new: **Continental Glaciers** (13 mins., color)—a study of the great Greenland Glacier, showing glacier anatomy, travel measurement methods, crevasses, glacier effects and basic concepts. This senior high film is available from the Dept. of Photography, Ohio State Univ. (Columbus 10, Ohio.)

You will find many uses for science films, dealing with subjects related to the IGY and its many phases, outside the science classroom. Your social studies class, for example, can grasp the aims of the scientific teams more easily after seeing some of the basic concepts and principles which are to be further explored and expanded.

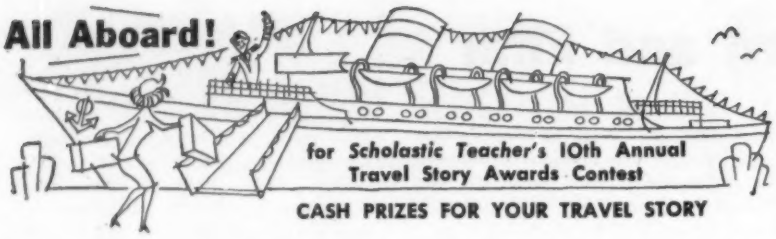
—VERA FALCONER



© Walt Disney Productions

Transfilms

Two films covering two aspects of IGY—and at two different levels—are (left) *Our Friend the Atom* (Disney), and *A Moon Is Born,* story of the launching of the earth satellite (produced by Transfilm for IBM).



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HOW TO ENTER: Type and double space your travel story, 750 to 1,000 words, on 8½" x 11" paper.

DEADLINE: Manuscripts must be postmarked no later than midnight, January 31, 1958. Winners will be announced in April. Send your manuscripts to: Travel Editor, *Scholastic Teacher*, 33 West 42nd St., N. Y. C.

The manuscripts that win cash prizes become the property of *Scholastic Teacher*. Entries will not be returned unless they are accompanied by self-addressed, stamped envelopes.

IGY Books from Whittlesey House

EXPLORING EARTH AND SPACE
The Story of the I.G.Y.
By MARGARET O. HYDE
Drawings and diagrams by CLIFFORD GEARY
A timely and exciting account of the scientific explorations undertaken during the world-wide International Geophysical Year. From submarines to satellites, from the heat deep within the earth to the cold of outer space, this is a thrilling picture of the investigations being made by more than 5,000 scientists.
Teen ages. $3.00

WHITE LAND OF ADVENTURE
The Story of the Antarctic
By WALTER SULLIVAN
Illustrated with photographs and maps.
The fascinating story of the Antarctic—including the IGY *Operation Deepfreeze*—by a distinguished *New York Times* correspondent who has accompanied several expeditions.
Teen ages. $3.50

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This coupon valid for two months. Oct. 25, 1957

Free Period

Spelling: Teddy Roosevelt was a passionate advocate of simplified spelling. (Most students would be on his side.) He set the government printer in a tizzy by ordering zoo simplified to "zu" in all official documents. The day Roosevelt left office, a New York newspaper that had bitterly opposed him ran its story with this head: THRU.

Discipline: "My kid misbehaves," Danny Thomas says, "so I say, 'Go to your room!' And what's in the room? Color TV."

Spoonerism: Commentator: "All the world was thrilled with the marriage of the Duck and Doochess of Windsor."

Don't Mention It: After end-of-term prizes were distributed in the fourth grade, Rusty's mother asked him if he got an award. "No," he replied, "but I got a horrible mention!"—*Mississippi Educational Advance.*

Capsule Criticism: An Ambrose Bierce one-sentence review of a book: "The covers of this book are too far apart."

Who Wrote Hamlet?: After an especially feeble and disjointed performance of *Hamlet*, the local critic announced that he had come upon an infallible device for discovering whether Bacon or Shakespeare wrote *Hamlet*. "Open the graves of both," he said. "The one who turned over in his grave last night was the author of *Hamlet*."

Words: Overheard during passing time in the crowded corridors in one of our large high schools: "Please stop shoveling."

Share your chuckles. Send us your favorite story for "Free Period." Write it on a post card addressed to "Free Period," Scholastic Teacher, 33 West 42nd St., New York City 36.

Collier's

"I notice you promoted everyone."

Travel Tips

Planning to follow the sun during your Christmas vacation? Here are some special package tours which should interest you.

▸ If you'd like to combine your Christmas traveling with some serious study, consider taking a seven-day air trip to Puerto Rico Dec. 26-Jan. 1. Sponsored by the Association for World Travel Exchange, the tour will constitute a one-week seminar on the economics, educational, and political background of this U. S. Caribbean island. There'll be some sightseeing, but the major part of the tour will be spent on discussions and field visits. All-expense trip is $196. Write Association at 38 West 88th St., New York City.

▸ BOAC has put Bermuda's sunny shores within everyone's budget by offering an eight-day, seven-night tour for $148.50, Bermuda Plan (breakfast only). It includes roundtrip tourist class air fare from New York, Boston or Washington, D.C., accommodations at one of the island's hotels, cottages or guest houses; airport to hotel transportation; swimming facilities; and a choice of entertainments such as sightseeing, yachting, golf, or dinner at one of Bermuda's famous restaurants. Write BOAC, 530 Fifth Ave., N. Y. C. 36.

▸ If Florida is your holiday destination, you might plan to desert the beach for a few days and take advantage of the "Triple Treat" offered by Greyhound Lines, West India Fruit & Steamship Co. and Cubana Airlines. For $33.20 a traveler can bus from Miami to Key West via the 165-mile Overseas Highway, ferry across the Atlantic Ocean to Havana, and fly back to Miami, with an optional stop at Cuba's Varadero Beach. Greyhound has 10 departures daily from Miami; the Havana Ferry three departures weekly from Key West, and Cubana daily departures for Miami.

▸ Fortunate West Coast dwellers can take advantage of one of Sita's famous trips to the Hawaiian Islands. Of particular note is the "Haleakala Tour" (8 days from West Coast) with rates beginning at $448. The price includes roundtrip air fare from San Francisco, Los Angeles, Portland or Seattle; three days seeing the sites of Oahu and its capital, Honolulu—with plenty of free time allowed for swimming and general relaxing; and three days spent visiting the volcanic craters, orchid gardens, lush valleys and sand beaches of Maui and Hawaii. Write Sita World Travel, Inc., 323 Geary St., San Francisco.

▸ Mayan ruins your specialty—or are you just fascinated by Mexican names like Oaxaca, Guanajuato, San Miguel Allende? If you have an urge to visit Mexico for *any* reason, Sita, again, has tours of nine or ten days, with prices beginning at $149, that cover an amazing amount of territory. The 10-day "Toltec Tour" assembles in Mexico City and includes—in a list too long to mention fully—the beauty spots of Acapulco, Cuernavaca and Floating Gardens of Xochimilco; visits to the shopping centers of Taxco and Mexico City and a ticket to the bullfight. The "Tarasten Tour" gathers at San Antonio, Texas and provides an unusual opportunity to see the colorful and little-traveled section of northern Mexico plus the more popular cities of Guadalajara, Mexico City and Cuernavaca. For full details, departure dates and reservations, contact Sita World Travel, Inc.

▸ Travel booklets to write for: Bound for South America? A 25-cent investment in Panagra's *How to Get the Most Out of Your Trip to South America* (revised) will bring you a 128-page illustrated pocket-size booklet with latest information on Panama, Colombia, Ecuador, Peru, Bolivia, Chile, Argentina, Uruguay and Brazil. (Available from Panagra's South American Information Bureau, 135 E. 42nd St., New York 17 . . . Sabena Belgian World Airlines ($1 to 720 5th Ave., New York 19) offers an excellent handbook, "Holiday Abroad 1957," containing a detailed rundown on their tours, including maps and approximate budgets, sections devoted to pre-trip planning and background notes on Europe . . . A 40-page "Trip Log" outlining three-day to four-month trips on freighters, cargo liners, luxury liners, air, rail & motorcoach tours is available for 50 cents from Air & Marine Travel Service, 353 W. 57th St., New York 19. The book is complete with maps and would be ideal for planning a summer of footloose wandering.

Delta C & S Air Lines

Havana visitors enjoy the boat trip across the bay to Morro Castle.

—Betty Connolly

New Materials

KEY TO THE PAST—This 72-page listing of "history books for pre-college readers" by Margareta Faissler is one of the first publications of the American Historical Association's brand new "Service Center for Teachers of History." Bibliography is arranged according to geographic area (Europe and the Near East, United States); subdivided by time (Napoleonic era, Revolutionary period); and/or by subject (economic history, foreign affairs). Single copies are 75 cents, but in lots of 10 or more there's a bargain rate of 10 cents each. Write Association at 400 A Street, SE, Washington 3, D. C.

THE CHILD'S PERSONAL READING—A monograph for the teacher of elementary language arts, prepared by the New York State English Council. Five thought-provoking articles on how to stimulate children to read independently, aids in selecting children's books, etc. Most sources confined to N.Y.S., but idea worth copying by local organizations. Write *Scholastic Magazines*, 33 West 42 Street, N. Y. C. (35 cents).

TIPS TO TYPISTS—Thirty-two page booklet on basic typing "do's and don'ts" free in classroom quantities from Smith-Corona, Inc., 701 E. Washington St., Syracuse 1, N. Y. Topics include proper margins, centering of paper and headings, better carbon copies, error control, do-it-yourself punctuation, handy bibliography of reference books for typists.

BICYCLE SAFETY PROGRAM—Thinking of setting up a bicycle safety program in your community? Write for free program kit to Johnson & Johnson, Bicycle Safety Program, New Brunswick, N. J. Kit includes program manual, safety posters, booklet on how to line up community support.

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Listenables and Lookables

EDITED BY PATRICK AND MARY HAZARD

All times shown are current in Eastern Zone. Programs subject to change. Check local stations before assigning programs to students.

DRAMA

Wed., Oct. 23, 3:00 p.m. (NBC-TV) **Matinee Theatre**: "Lest We Forget," play about the Hungarian Freedom Fighters. Josef Farich, a factory worker in a small Hungarian town, protests the injustice of new piece-work norms. His resistance to the regime makes it necessary for him to leave his pregnant wife and flee to Austria. He sneaks back to see his family and is saved from death by the intervention of Freedom Fighters.

9:00 p.m. (NBC-TV) **Kraft Theatre**: "Man in a Trance" stars Julius LaRosa as a "one-hit" singing sensation who is afraid he can't repeat.

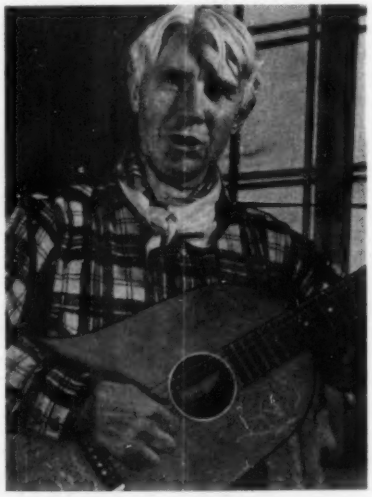
10:00 p.m. (CBS-TV) **U.S. Steel Hour**: In "Crisis in Corona," a small-town dentist (Elliott Nugent) has a teen-age daughter (Betty Lou Keim) who embroils him in a seemingly unimportant issue that grows into a crisis involving freedom of speech. Selected to represent her school in a state-wide speech contest on "the person the speaker most admires," the girl chooses Aaron Burr because she discovered that Aaron Burr had a particular devotion to his daughter! The school principal forbids her to deliver the speech—putting her dad on the spot.

Thurs., Oct. 24, 9:30 p.m. (CBS-TV) **Playhouse 90**: "They Hanged My Saintly Billy," based on Robert Graves' recent novel about Dr. William Palmer, a 19th century English physician reputed to have killed 13 people. He became the center of one of the most sensational trials in English history. Jack Lemmon plays the title role; Margaret O'Brien, his wife; Herbert Marshall his medical superior; and Gladys Cooper is Palmer's overindulgent mother. Adapted by David Shaw; director, Robert Mulligan.

Fri., Oct. 25, 8:30 p.m. (ABC-TV) **The Patrice Munsel Show**: Cyril Ritchard and Miss Munsel do a take-off on "A Visit to a Small Planet," the current Broadway hit.

Sun., Oct. 27, 9:00 p.m. (CBS-TV) **G. E. Theatre**: Charles Laughton, in his first straight dramatic role on TV, in "Mister Kensington's Finest Hour," about a highly dignified British diplomat who gets involved in Little League Baseball when he arrives in Houston.

Mon., Oct. 28, 9:30 p.m. (CBS-TV) **DuPont Show of the Month**: Mark Twain's "The Prince and the Pauper," with Christopher Plummer as Sir Miles Herndon, who saves Rex Thompson, the Prince-turned-pauper for Coronation as Edward the Sixth. Rosemary Harris is Lady Edith. Sir Cedric Hardwicke is the Earl of Hartford, more than slightly confused by the "madness" of Johnny Washbrook as the pauper-turned-Prince in 16th Century England. Hurd Hatfield is the villainous Sir Hugh; John Carradine plays John Canty. Have one of the best readers brief the class on the complete Twain book on Friday. Ask each student to hand in on Monday an outline of the events they would keep in a 90-minute production. (They should try to use TV's special resources to telescope narrative, suggest settings, establish moods.) On Tuesday discuss their overnight reviews on the quality of the performance. Wednesday, discuss the ideas in the play, e.g., the idea that status is only clothes-deep; that humanitarian progress in laws and decency comes simply from the awakened conscience of a young king; that young people see through the superficial trappings that adults have accustomed themselves to; the violent melodramatic sequences involving the Prince; the ugliness and sordid life of the poor people in London; the cruelty of punishments for crime; the king's law vs. the constitutional law; whether the story was history, legend or tradition. Do you think Mark Twain, the American democrat, was too rough on British aristocratic traditions? Why do some critics call this Twain's best plot? Watch for U.S. Steel's musical version of "Huck Finn," set for Nov. 6.



Carl Sandburg will *Meet the Press* on NBC-TV, Sunday, Oct. 27, 6 p.m.

Tues., Oct. 29, 9:30 p.m. (ABC-TV) **Telephone Time**: "The other Van Gogh," a little known story about the painter's sister-in-law. Although Vincent does not appear in the play, he is a constant presence because Theo is torn between his brother's letters pleading for help and his wife Johanna's need for his love. Johanna resents Vincent's hold on her husband Theo.

PUBLIC AFFAIRS AND HISTORY

Sun., Oct. 27, 4:00 p.m. (NBC-TV) **Wide Wide World**: "The House I Enter," on the M.D. in American life. Major sequences (an operation in progress and a medical lecture in the amphitheatre) from Lakeside Hospital, Western Reserve Univ., Cleveland. Country doctor in Overbrook, Kans. Dr. Frederic Wertham, from his psychiatric clinic in Harlem, and others.

5:00 p.m. (CBS-TV) **See It Now**: Danny Kaye brings last year's 90-minute show for UNICEF up to date.

Mon., Oct. 28, 6:00 p.m. (*NBC-ETV) **IGY: A Small Planet Takes a Look at Itself**: Dr. Joseph Kaplan, Chairman, National Committee for IGY, is Frank Blair's guest on the introductory program. Complete IGY schedule given last week.

Tues., Oct. 29, 6:00 p.m. (*NBC-ETV) **Mathematics** (Premiere): Clifton Fadiman is host for a series describing the great breakthroughs in mathematical thinking. "How Many, How Much?"—the discovery of number, how man developed concepts, what number is, what systems other than ten might be used, the binary code of the automatic computer. Dr. Robert L. Swain, State U. of N.Y., guest. Nov. 5: "There's More Than One Geometry." Euclid, Gauss, Lobachevski. Nov. 12: "The Search for X." Development of algebraic equations during the Italian Renaissance. Nov. 19: "The Space Pilot": Descartes and coordinate geometry, and how it is used in air navigation. Further details each week.

Wed., Oct. 30, 6:00 p.m. (*NBC-ETV) **Arts and the Gods** (Premiere): Alexander Scourby is host for this series on Greek mythology and the arts they have inspired. First topic: "The Gods are Born."

Tues., Oct. 29, (CBS) **Biography in Sound**: Theodore Roosevelt, in anticipation of his centennial in 1958. Listen to his friends and acquaintances discuss the five mainsprings of the Rough Rider's philosophy: family life in the home; youth and adventure; defense; citizen's participation in government; and the moral and spiritual foundations of a free society.

SCIENCE AND EXPLORATION

Fri., Oct. 25, 9:00 p.m. (NBC-TV) **The Strange Case of the Cosmic Rays**: Particularly appropriate during the current Sputnik excitement is the latest Bell Laboratories production. Starring Richard Carlson as interlocutor and Dr. Frank Baxter as narrator, the production also uses puppetry, films, still-shots and cartoons. The scientific data and advisors are both significant and exciting; the writing and frenetic switching of cute production techniques are less so. But in spite of the program's split personality, the content remains valuable for junior and senior high science students. 1. What is the main function of this film? Does it have a secondary one? Does entertainment ever get in the way of enlightenment in this show? Would the film be less interesting without the actors and the story-within-a-story technique? 2. Name several of the visual or auditory aids used in the film. Which did you find most helpful? Did any confuse rather than help you? Talk over several of the analogies or comparisons made in the production. 3. This film was finished before Sputnik. Outline a fifth reel, adding the newest phases of the "strange case." 4. Why were Anderson, Fermi, and all the scientists in the film interested in cosmic rays? What is pure research?

12 noon (CBS-TV) **Let's Take a Trip**: A visit to Jacques Lipschitz' Modern Art Foundry.

Sun., Oct. 27, 1:00 p.m. (NBC-TV) **Mr. Wizard**: "Senses."

6:00 p.m. (NBC-TV) **Meet the Press**: Carl Sandburg. Radio, 6:30 p.m., NBC.

6:30 p.m. (CBS-TV) **The Twentieth Century**: The story of the remote Baltic Island rocket base of Peenemunde, where the German V-1 and V-2, prototypes of the Russian Sputnik rocket, were developed. For a very useful "Television Teaching Aid" for "Guided Missiles," chapter 2 in this series, write Prudential's agency, Reach, McClinton & Co., Inc., 505 Park Ave., New York 22.

*Note: NBC-ETV means that the National Broadcasting Company is allowing use of its facilities for transmitting programs over the nation's educational television (ETV) stations. Some NBC affiliates carry these programs on a delayed basis, and should be checked for exact date and time.

National Radio and TV programs by representatives of religious faiths are listed once each semester.